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OF

MEDICAL AND SURGICAL SCIENCE.

EDITED BY

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INDEX TO VOL. II.

PAGE.

A Lunatic Asylum..... 45
A New Anæsthetic..... 427
Abdominal Parietes, Rupture of..... 283
" Tumour..... 279
Acupressure..... 373
" Action for Damages..... 281
" Observations on..... 127
Albumen in Urine, Detection of..... 28
Amputation at Ankle-joint..... 176
Anæsthesia by Nitrous Oxide Gas..... 432
Anæsthetic Spray Producer..... 507
Anæsthetics..... 323
ANDERSON, W. J., L.R.C.S.E., Quebec; on Tracheotomy..... 243
ANDERSON, W. J., L.R.C.S.E., Quebec; on Exanthemata..... 385
ANDERSON, W. J., Quebec; on poisoning with Coptis Infolia..... 489
Aneurism, Sacculated, case of..... 33
" Distal and Proximal Compression in..... 36
" Abdominal, Case of..... 38
" Ascending Aorta..... 49
" Common Femoral..... 125
" Thoraic Aorta..... 187
" of the Aorta..... 348
Aorta, Rupture of, from injury..... 35
Arsenic, New Test for..... 429
Artificial Vagina..... 345
Astragalus, Dislocation of..... 145
Atropine, Poisoning with..... 57
Axis Partial, Dislocation of the..... 131
Bacteridia and Malignant Pustule..... 59
Beauport Lunatic Asylum..... 87
Bilious Vomiting, Singular Case of..... 364
Bladder, Gun Shot Wound of..... 176
Blenorrhagia, Cases of..... 146
Cæsarean Section, Successful Case of..... 426
CAMPBELL, Dr. F. W., on Cholera..... 202

PAGE

CANIFF, Dr., on Wounded at Lime Stone Ridge..... 529
Carotid Artery, Ligature of..... 30
Cerebellum, Functions of the..... 255
Children's Diseases, Clinical Lecture..... 230
Chilblain, Nature and Treatment of..... 367
Cholera, A few Practical Remarks on..... 343
" Appearance in New York in 1865..... 368
" in Canada in 1832 and 1834..... 485
" How Shall we Treat it..... 557
" Treatment of..... 565
" Bleeding in..... 568
" Ice in..... 570
Cities, Health of..... 92
Clinical Surgical Case..... 277
College of Physicians and Surgeons, Canada East..... 93
Constipation, Three Cases of..... 361
Contagion, Mode of Transmission..... 220
Contracted Cicatrices, Successful Operation..... 312
Convulsions, Puerperal..... 1
Cycle of Disease..... 477
Degeneration of Retina, Bright's Disease 264
Delivery During Sleep..... 282
Dentition, Influence of Calomel upon..... 163
Diabetes in a Monkey..... 371
Digitalis, a Cardiac Tonic..... 97
Diphtheria, Clinical Lecture on..... 179
" Treatment of..... 360
Dislocation of Astragalus..... 145
DRAKE, Dr. J. M., Case of Aneurism of the Aorta..... 49
DUFF, Dr. John, " " .. 348
Dyemenorrhœa, Use of Endoscope in..... 424
Editorial:—
A Lunatic Asylum..... 45
The Beauport Lunatic Asylum..... 87

The Health of Cities..... 92
College of Physicians and Surgeons, C. E..... 93
Method of Examination..... 138
Letter from Mr. Bulmer..... 140
New Medical Societies..... 141
The Turkish Bath..... 141
Change of Type in Disease..... 187
Medico-Chirurgical Society of Montreal..... 192
An Appeal..... 238
The Present Session..... 239
Homœopathic Medicine..... 240
Professional Remuneration..... 284
Medico-Chirurgical Society..... 286
Quebec Medical Society..... 287
Presentation to Dr. Worthington..... 287
Beauport Lunatic Asylum..... 331
Professional Remuneration,..... 333
The late S. C. SEWELL, M. D..... 334
Medico-Chirurgical Society..... 334
Cholera in Paris..... 376
Our City Council,..... 378
Small Pox at Caughnawaga..... 379
DR. ANDERSON..... 379
Annual Meeting, Medico-Chirurgical Society..... 381
A Health Officer..... 430
Dr. Marsden's Plan of Quarantine..... 430
Meeting of the Profession..... 431
The Cholera..... 478
Prescripton for Cholera..... 518
McGill University, Montreal..... 520
Annual Convocation, McGill University..... 523
College of Physicians and Surgeons, C. E..... 526
Notice to Correspondents..... 528
An Apology..... 574
The Health of the City..... 574
Our Volunteers..... 575
To our Subscribers..... 576
Empyema, Case of..... 506
Erysipelas of Upper Extremity..... 171
Excision of Enlarged Spleen..... 325
Exfoliation of Alveolar Process..... 491
Experience with the Wounded at Lime Stone Ridge..... 529
Femoral Aneurism, Compression of..... 241
FENWICK, DR. G. E., Cases of Blenorrhagia..... 146
Fracture of the Skull, three Cases of ... 534
FRASER, DR. W., Valedictory Address to the Graduates in Medicine, McGill University..... 481
Fundus Oculi, Mode of Examination..... 106
GIRDWOOD, DR. G. P., Removal of a Foreign Body..... 412
GODFREY, DR. R. T., Remarks on Cholera..... 343
Gordon's Splint in Fracture of Lower End of the Radius..... 466
GRANT, DR. JAMES A., on Dislocation of the Astragalus..... 145
GRANT, DR. JAMES A., on Traumatic Tetanus..... 212
Harelip, New Operation in..... 31
Heart, Penetrating Wound of the..... 132
Heart, Polypi in Right Side of the..... 51
Hemlock, Therapeutical Properties of... 167
HENRY, W. J., M.D., Digitalis a Cardiac Tonic..... 97
Hernia, Cerebri, Case of..... 127
Hernia, Strangulated Femoral..... 553
HINGSTON, DR., W. H., on Artificial Vagina..... 345
Hip-Joint, Amputation at the..... 305
Hospital Notes and Gleanings..... 318
Hospital Reports:—
Caries of Metacarpal Bones..... 11
Case of Structure of Urethra Perineal Section..... 56
Cases of Epilepsy at the Montreal Dispensary..... 106
Case of Clonic Convulsions..... 108
" " Embolism..... 109
" " Cancer of Peritoneum..... 150
" " Fracture of Ribs and Wound of Lung..... 291
" " Injury of the Hand..... 295
Perineal Section, Case of..... 295
Epithelioma, Amputation of Arm..... 296
Fungus Hœmatodes, Amputation of Fore-Arm..... 351
Case of Tertiary Syphilis..... 413
Cases of Enteric Fever..... 455
HOWARD, DR., R. P., Introductory Lecture..... 193
HUNT, JOHN H., L.C.R.S.I., on Femoral Aneurism..... 241
Hydrocele of Hernial Sac..... 137
Hydrophobia, Case of..... 161
Hysterical Speechlessness, Case of..... 470
Iliac Artery, Ligature of..... 168
Iliac, External Ligature of the..... 372
Introductory Lecture..... 193
Knee Joint, Inflammation of Traumatic. 10
Knee Joint, Laceration of Internal Lateral Ligament..... 62
Labour, Third Stage, Management of the 374
Lacceration of a New Born Child..... 167
Laceration of Urethra, during Coition.. 320
Larynx, Fracture of the..... 100
Larynx, a Sixpence Lodged in the..... 65
Leanness, is it Favoured by Animal Diet 256
Lectures on Diseases of the Eye..... 536
Lectures on the Treatment of Cholera... 493
LEMIRE, DR., on the Use of Quinine and Iod. Potassium..... 9

Locomotive Ataxy, Cases of.....354-5
London Correspondence..... 246
Mackie, Dr. D., on Exfoliation of Lower Jaw..... 491
Maclean, Donald, M. D., on Fracture of Larynx..... 100
Maclean, Donald, M.D., on Puerperal Convulsions..... 1
Marsden, Dr., Plan of Quarantine for Cholera..... 336
Martyn de Witt, H.M.D., on Perineal Thrombus..... 104
McGillivray, D. D., Polypi in Right Heart..... 51
Medicial Clinic, Philadelphia Hospital... 321
Medical News. 48, 192, 288, 335, 384, 517, 576
Middleton, Dr. W. G., on Wound of the Abdomen..... 433
Monstrosity, Case of..... 165
Morphia, Hypodermic Administration of 433
Moveable Kidney..... 262
Nature and Treatment of Chilblains..... 367
Notes on Cholera, Dr. Johnson..... 500
Obsteric Clinic, Dr. Budd..... 426
Œrdema of the Glottis..... 218
Oleum Erigerontis Canadensis, use of... 432
Onychia, Case of..... 178
On the Exanthemata Prevalent in Quebec during the past Twelve Months..... 385
Optical Defects of the eye.....398-440
Otorrhœa of Children..... 326
Ovarian Disease, Treatment of..... 266
Ovariotomy, Case of..... 217
Paralysis Occurring in Children..... 365
Peritonitis Idiopathic, Case of..... 289
Perineal Thrombus following Labour... 104
Poisoning by Coptis Infolia..... 489
Poisoning by Pharaoh's Serpents..... 423
Pritchard, Dr., Trial of..... 67
Progressive Paralysis..... 572
Purpura Hœmorrhagica, Case of..... 276
Pylorus, Cancer of the..... 317
Quarantine, Plan of, for Cholera..... 331
Read, Dr. H. S., on Inflammation of Knee Joint..... 10
Remarkable Case of Missed Labour..... 475
Removal of a Foreign Body..... 412
Resection of Shoulder Joint..... 173
Retinal Disease Occurring with Kidney Disease..... 257
Retinitis Albumenurea..... 269
Reviews and Bibliographical Notices:—
Descriptive Catalogue of Fluid and Solid Extracts..... 556
Diseases of the Rectum, by T. J. Ashton..... 418
Dr. Nott, Contributions to Surgery.. 554
Glycerine and its Uses, (Hartshorne).. 16
Hand-Book of Skin Diseases..... 216
Lectures on Surgical Pathology, Paget 13
Lectures on Public Health, Mapother. 17
Lectures, Chiefly Clinical, Thos. K. Chambers..... 249
Medical Lexicon, Dunglison..... 17
Materia Medica, J. B. Biddle..... 254
On Wakefulness, by W. A. Hammond. 254
Physicians' Visiting, for 1866..... 216
Proceedings of College of Physicians and Surgeons, C. E..... 114
Radcliffe on Diseases of the Nervous System..... 353
Successful Removal of Uterus and Ovaries..... 557
Syme, Principles of Surgery..... 352
System of Surgery, Gross..... 112
Text Book of Anatomy and Physiology 422
The Endoscope as an Aid to Diagnosis. 154
The Laryngoscope, use of, McKenzie.. 297
Rheumatism, Quinine and Iod. Potash in 9
Rheumatism, Blister Treatment in..... 25
Rheumatism, Quinine in..... 226
Rosebrugh, Dr., on Examination of Fundus Oculi..... 106
Rosebrugh, Dr., on Optical Defects of the Eye..... 398,440
Rosebrugh, Dr., Lectures on Disease of the Eye..... 536
Ross, Dr. James, Hypodermic Use of Morphia..... 433
Scapula, Entire Removal of the..... 134
Scapula, Removal of, by Mr. Ferguson.. 274
Sewers and their Evils..... 259
Simpson, Dr. T., Three Case of Fracture of Skull..... 534
Speech, Localisation of..... 158
Spleen, Abscess of the..... 135
Spooner, Dr. George D., on Puerperal Fever..... 394
Stomach, Perforating Ulcer of..... 42
Stricture of Urethra, Immediate Delitation..... 372
Subclavian Artery, Ligature of the..... 41
Subclavian Artery, Ligature of the..... 272
Successful Case of Cæsarean Section..... 426
Supra-renal Capsules, Disease of..... 218
Surgical Statistics, Confederate States Army..... 316
Sycoses, Cured by Sulphate of Soda..... 367
Tetanus, Pathology of..... 174
Tetanus Traumatic, Case of..... 212
The Present Epidemic of Cholera..... 202
Therapeutical Fragments..... 423
The Thermometer in Disease..... 471
Thoughts on Puerperal Fever..... 394
Tongue, Excision of the, by Mr. Syme... 179
Tongue, Excision of the..... 273
Tracheotomy, Successful Case of..... 243
Transfusion of Blood..... 230
Trenholme, Dr. E. H., on Idiopathic Peritonitis..... 289

Tumor Involving the Pneumogastric.... 315
Typhus Fever..... 19
Uterine Hæmorrhage, Acetate of Lead in 336
Valedictory Address by Professor Fraser 481
Varicose Veins..... 324
Venesection, Clinical Lecture on..... 20
Veratrum Viride, Use of,..... 159
Wilson, Dr. B. S., on Strangulated Hernia..... 453
Workman, Dr. Joseph, Cholera in Canada in 1832-1834..... 485
Wound of the Abdomen..... 453
Wrist, Ganglion of the..... 177
Wrist, Ganglion of the..... 281

CANADA

MEDICAL JOURNAL.

ORIGINAL COMMUNICATIONS.

Puerperal Convulsions without Albuminuria (in a case of twins,) treated by Chloroform and the Artificial Induction of Labour. By DONALD MACLEAN, M.D., L.R.C.S.E., Professor of the Institutes of Medicine, and Lecturer on Clinical Surgery, Queen's University, Kingston.

Case.—Mrs. C., (Township of Storrington) aged 32. Pregnant for the sixth time, has had twins once before.

All her previous pregnancies and confinements having been, so far as she is aware, quite normal. Her general health has always been excellent, until within the last three months, during which she has been subject to severe attacks of neuralgia in the head, face and neck. Six weeks ago she applied to me on account of one of these neuralgic attacks, and I succeeded in instantaneously arresting her severe sufferings by the hypodermic injection of solution of morphia.

The respite lasted for a fortnight, but at the end of that time she again applied to me and with the same result, by the same means as on the previous occasion.

I heard no more of her until the 29th ult., when her husband called on me and stated that Mrs. C. had been suffering very severely from neuralgia in the head, neck and left shoulder for several days, and that on the previous day (Sunday the 28th) spasmodic movements (twitchings) had appeared in the left arm, that these movements, as well as the neuralgic pains had gradually increased in violence, until sometime through the night, they culminated in what appeared to him a regular epileptic fit, which left her in a state of stupor, from which she had not altogether recovered when he left her early on Monday morning.

I at once suspected puerperal convulsions and acceded to Mr. C's. request, to see her as soon as possible. We arrived at Mr. C's. house, which is twelve miles distant, at 2 p.m. on Monday, and found the

patient in a strong convulsion, which the attendants informed us was the third since Mr. C. left home.

I immediately administered chloroform with the effect of arresting the convulsion and setting her to sleep. She slept soundly and naturally for more than an hour, and then sat up in bed and conversed with remarkable intelligence and cheerfulness. She informed me that she was just entering upon the eighth month of pregnancy, that she thought the child was dead and had been so for some days, and that she had felt for some time that "all was not quite right." She attributed all her present troubles to a fall from a buggy some weeks previously, since when she had not felt right. It was soon after this fall that the first attack of neuralgia came on. During the three hours that I stayed with her on Monday there was no return of the eclampsia, but the twitching of the left arm continued; otherwise she appeared quite well, the neuralgia had entirely disappeared, and she partook of some refreshment with a relish.

On examination, I found that the fœtal heart was beating a little to the left of the middle line, at a point about three inches above the pubis. I could hear it only in this situation, so did not suspect the presence of twins, although the uterus was unusually distended. At this time there was no appearance of labour. Having given the nurse full directions how to use the chloroform if the convulsions returned, and having procured a small quantity of urine to test for albumen, and to examine microscopically, I left her and came home.

The urine contained neither albumen nor casts, on the contrary appeared to be quite normal.

Early on Tuesday morning a messenger came from Mr. C., with the information that Mrs. C. was much worse, (the fits were becoming gradually more and more frequent, and the chloroform had lost its effect,) and a request that I should lose no time in visiting her. At ten (a.m.) I found her to all appearance "in extremis." The convulsions were very violent and almost unintermitting, pulse nearly imperceptible, extremities cold, no signs of labour coming on. The attendants stated that she had been quite insensible since three o'clock (a.m.), and that the chloroform had no effect in arresting the fits. Notwithstanding this latter very discouraging statement, I determined to resort once more to chloroform, and the result was that in a very few minutes all reflex action had ceased, and the patient lay perfectly quiet, but in a condition very closely resembling coma.

After the lapse of ten minutes, the arm began to twitch violently, and it was evident that another fit was coming on. The chloroform was immediately resumed, and very soon the patient was quite quiet once more.

The fit appeared to have been summarily arrested by the anæsthetic. By this time I felt convinced that the cause of all the trouble was the over-distended condition of the uterus and that the only course for me to adopt with a view of saving the life of the mother and child was to remove the cause, by artificially inducing labour. This I at at once proceeded to do by introducing into the uterus a flexible catheter and by injections of cold water into the vagina, the fits being kept in check meanwhile, by chloroform.

In a short time, I was gratified to observe the uterus contracting and the os uteri sensibly dilating. The latter process I endeavored to promote by digital pressure.

So soon as the os had opened to rather more than the size of a half dollar silver piece, I ruptured the membranes, when an immense quantity of water gushed forth and an arm presented.

I attempted to perform podalic version, but found myself unable to do so, (no doubt on account of the presence of a second child,) but the os was now nearly fully dilated, the uterine contractions were very strong and frequent, and the child very small; I therefore used the crotchet and delivered the child double. As soon as this child was born there was another great gush of liquor amnii, and on introducing my hand a second child was found, presenting by the feet, and was very rapidly born, and almost simultaneously the double placenta was expelled, without any flooding, the uterus contracting as rapidly and firmly as could be desired. Both children were alive, and though very small and evidently premature, seemed likely to live.

The mother was kept thoroughly under chloroform until the binder was applied, and some of the wet bedding replaced by dry.

When the chloroform was removed, which it was at 1 p.m., there was no appearance of a return of the convulsions, but the patient was hardly conscious, she was in a state of stupor which lasted for fully thirty-six hours, during which, when spoken to in a loud voice, she would say, yes or no to any question, which admitted of being thus replied to; but any question requiring a longer reply she did not attempt to answer.

For twelve hours after parturition she appeared to be very thirsty, asking frequently for "drinks."

On Tuesday evening she fell into a calm and natural sleep, and with the exception of occasional attacks of twitching in the left arm, all reflex action had ceased.

On Wednesday, I was prevented from seeing her, but received a note from Mr. C., informing me that mother and children were progressing favorably; that the former, though still oppressed by the stupor, was

looking fresher and more natural than she did the day before, and that there had been no return of the fits.

On Thursday I visited her and found everything going on well, (except that one of the twins had died convulsed a few hours before my arrival). Mrs. C. had had her bowels freely opened by castor oil.

She looked remarkably well, pulse about 100. She had completely wakened out of her lethargic state, had asked for chicken soup. Still the twitching of the left arm continued, and she complained of great weakness; her skin was dry and harsh, for which I ordered sponging with tepid water and vinegar, after which she felt much more comfortable in consequence no doubt of the slight diaphoresis produced.

On Sunday, the 4th inst., I saw her for the last time; all reflex action had now ceased, and she was evidently making rapid progress towards recovery.

Since then, Mr. C. and others have called here and reported always most favorably as regards the mother, but the other child died on Thursday the 8th in the same manner as his brother had done some days previously.

I ought to observe that at each of my visits to Mrs. C., a specimen of urine was obtained and examined, chemically and microscopically, but nothing abnormal could ever be detected.

Commentary. This case undoubtedly constitutes an exception to the great general rule that "Puerperal convulsions are intimately connected with diabetes albuminosus or acute Bright's disease."

True, some eminent authorities as Marchal, Liebert, Depaul, Legroux, L'Huillier, Stoltz, Seyfert, Levy & Scanzoni, have assailed the theory of the identity of uræmic intoxication in acute Bright's disease, and puerperal eclampsia, but equally eminent writers as Frerichs, Litzman, Braun, Wieger, Oppolzer, Matthews, Duncan, and many others have, with equal ability, and I think better success, defended this theory, for at the present day it is the generally received view.

The first mentioned authors have endeavoured to prove that the Brightian degenerations of the kidneys, which, it cannot be denied, are found in the bodies of those who have died of eclampsia, are consequences merely of the convulsions only accidental secondary phenomena of the hyperœmia caused by the eclampsia, and of hydroæmia."

The result of analytical investigations is thus summed up by Scanzoni:

"1. In the most recent times the *post mortem* examinations of persons dying of eclampsia have shown, only in a minority of cases, so profound a degeneration of the kidneys, as to justify the diagnosis of Bright's disease.

"2. It is not proved that albumen in the urine and the presence of fibrin cylinders always precede the outbreak of the convulsions. On the contrary, there are circumstances which show that this anomaly is frequently developed for the first time during the delivery or the convulsions.

"3. The arguments which have been brought forward to prove that uræmic intoxication has taken place, are not by any means equally strong arguments for our holding that the true eclampsia parturientum is always the result of uræmic intoxication originating in Brightian degeneration of the kidneys.

"4 Eclampsia puerperalis presents general clonic convulsions of the voluntary muscles, proceeding from the spinal cord, with removal of consciousness. These convulsions have their immediate cause in the irritability of the motor system of nerves which has been induced by pregnancy and increased by the act of delivery."

The case of my patient, Mrs. C., would seem to give support to the above views.

That she suffered from true eclampsia cannot be doubted, and still, so far from the convulsions being preceded by the presence of albumen and of fibrin cylinders in the urine, these abnormal phenomena were not observed at any period in the history of the case. It certainly seems impossible to account for the convulsions in this case in any other way than by "the irritability of the motor system of nerves which had been induced by pregnancy," and not only of the motor, but also of the sensory system. The neuralgia from which Mrs. C. suffered was the first palpable evidence of that nervous irritability which resulted directly from the unusually great distension of the uterus, and which in the end culminated in true eclampsia.

Dr. Braun, in his text-book of midwifery, (Lehrbuck der Geburtshulfe mit Einschluss der operativen Therapeutik, der ubrigen Fortpflanzungs-funtionem der Frauen und der Peurperal processe Von Dr. Carl R. Braun, K.K.O.O., Professor der theoretischen Geburtshulfe und Geburtshulflichen Klinik fur Arzte an der K. K. Universital in Wein, &c., Wein, 1857) devotes one chapter to the subject of puerperal convulsions, which chapter, owing to its completeness and erudition, has been translated into English and published in a separate form by Dr. Matthews Duncan, Lecturer on Midwifery, &c., &c., Edinburgh. From this translation the following graphic description of uræmic eclampsia is quoted; and I may here observe that this description applies with singular exactness to the convulsions which I observed in my patient, Mrs. C.

"(Uræmic eclampsia occurs in every period of pregnancy, as well as at other times, and even in males.) It is distinguished by quick repetition of the fits and complete insensibility during the fit, as well as generally during the interval. The face and neck appear swollen and injected during a paroxysm.

"The eyelids are prominent, and open or closed; the eyeballs exhibit quick rolling motions in the most different directions, or are fixed in an upward stare." (The latter was the case with Mrs. C.; the upward stare was well marked.) "The vessels of the conjunctiva are mostly injected; the mouth is at first widely opened and distorted; the tongue is protruded; then trismus follows, in which, if proper care be not taken, the protruded tongue is often bitten through, and hence a bloody foam flows from the mouth. In the muscles of the face, lively distorting convulsions are observed, whereupon the upper extremities get bent, the trunk is twisted to one side, and then all the extremities are thrown into jerking motions. Respiration often altogether ceases for many seconds. The carotids show strong pulsation; the veins of the neck and face swell on account of stoppage of the blood from muscular spasms. The colour of the face is cyanotic.

"All the muscles of respiration, especially the diaphragm, are in a state of contraction; and, in consequence of this, asphyxia may occur. The urine and fæces are involuntarily excreted. Vomiting rarely precedes the first fit. The skin remains dry, or may be covered with perspiration, and its temperature is either increased or diminished.

"The reflex sensibility is suspended during the fit. The pulse is frequent or slow; the arteries small or large. After this group of symptoms, there follows a soporose condition, in which the patient continues for a shorter or longer time, and lies motionless; the extremities stretched out and stiff; the respiration frequent and difficult, and at first stertorous, afterwards slower and snoring. Generally there is absence of consciousness and sensation.

"After awaking, patients generally complain of a confused, dull headache, and of great languor, which continue till a renewal of restlessness, stretching, extending, slow, tremulous bending of the upper extremities, jerking of the facial muscles, with reddening of the face, announce a new paroxysm. The fits may be repeated several times in a day sometimes as much as seventy times. Generally after a few fits complete unconsciousness supervenes, and this continues till recovery or death."

In cases where such a train of symptoms is observed, Dr. Braun (and others) maintain that acute Bright's disease is almost invariably present, that it "is the first link of a chain of morbid changes leading on to

puerperal convulsions" (Braun on Puerperal Convulsions, translated by Dr. J. Matthews Duncan, page 32). We cannot, at present, attempt to follow Dr. Braun through all the arguments which he advances in support of his position. There can be no doubt that the weight of evidence is in his favour; at the same time, the opinions of such men as Marchal, Liebert, Depaul, Legroux, L'Huillier, Stolltz, and Scanzoni are not to be lightly laid aside. Cases such as the one above related, in which there is eclampsia, without any evidence of renal disease, may be rare; nevertheless they do occur, and they go far to lessen the importance of Bright's disease as a cause of puerperal eclampsia. Moreover, it is admitted by Dr. Braun himself that, "As regards the *proximate* cause of the uræmic intoxication in Bright's disease, conjectures only can, at present, be expressed; for acute Bright's disease is not always accompanied by uræmia and eclampsia. Of 100 cases of acute Bright's disease only from sixty to seventy are seized with uræmic eclampsia.

"Of cases of eclampsia eighty per cent. occur in first pregnancies, in which, on account of the greater resistance of the abdominal walls, a powerful counter-pressure on the kidneys is generally produced.

"In cases of repeated pregnancy the pressure connected with a pleural pregnancy, with depressed pelvis, hydraminos, large size of the fœtus and a high position of the womb are frequently met with where eclampsia occurs." (Duncan's translation, pp. 22 and 24.)

Dr. Braun's researches have undoubtedly thrown great light upon this intricate and most important subject, nevertheless much remains to be done before the pathology of puerperal eclampsia is thoroughly understood.

In conclusion, with regard to the question of treatment, I wish to make a few observations.

In the case of Mrs. C., the chief means resorted to were chloroform inhalation and the artificial induction of labour.

The medical treatment recommended by Dr. Braun is the same, whether the eclampsia occurs in pregnancy during labour or in child-bed. He says, "The chief object to be attained is to diminish, as much as possible, the reflex excitability, to weaken the paroxysms, in order to diminish the dangers and to gain time for entering upon rational treatment. In this respect we have observed results from chloroform-narcotism which have surpassed all expectations. In uræmic eclampsia, the chloroform-narcotism is to be induced instantly when indications of an impending paroxysm show themselves—as great restlessness, increasing rigidity of the muscles of the arms, expiry of the intervals between former paroxysms, fixity of expression, or tossing hither and thither.

The narcotism is to be kept up until the premonitory symptoms of the paroxysm disappear and quiet sleep follows—a result generally attained in one minute.

"But, if it be not possible to cut short the paroxysm, then the chloroform inhalation is not to be kept up during the convulsive attacks and the comatose condition, in order to let an abundant supply of fresh atmospheric air reach the lungs. The chloroform inhalation moderates the imminently dangerous cramps of the muscles of the neck, epiglottis, and tongue, and may be continued even during a persistent trismus, when other medicines cannot be introduced into the stomach, and when loud mucous rôles indicate the development of œdema of the lungs.

"To moderate the secondary congestions of the head, which come on during and after the paroxysms, the application of ice is useful, and also smart sprinkling with cold water; and, better still, the cold douche on the head, during which operation the head of the patient is held over the side of the bed, and the ice-water falls into a basin held beneath it.

"Sponging the skin with tepid vinegar produces a most desirable diaphoresis and is easily accomplished. General depletion of blood easily produces an injurious effect in uræmic eclampsia, because, by bleeding the hydroæmia is further increased, the nervous fits are not improved, puerperal thrombosis and pyæmia in child-bed are much to be feared; and, because not unfrequently the paroxysms are aggravated by it, and exhaustion, fainting, and very slow convalescence are thereby produced.

"A great number of physicians consider prompt, careful evacuation of the uterus as the main point in the treatment of eclampsia. Artificial premature labour is to be resorted to only when there is some probability of the mother being thereby saved, and so much the more if death of the fœtus has already occurred.

"Colpeurysis and uterine catheterization we consider in this case the most secure method."

The efficiency of the method of treatment recommended by Dr. Braun was well illustrated in the case of Mrs. C. The same principles of treatment apply to all cases of true puerperal convulsions, whether connected with Bright's disease or not. The undue length to which this paper has extended, and for which I beg to apologize, has prevented the quotation, in full, of Dr. Braun's observations on the subject of treatment. For having restricted myself to quoting his words in reference to this part of the subject, I am sure no apology need be offered.

Quinine and Iodide of Potassium in Acute Rheumatism. By E. LEMIRE, M.D., attending Physician to the Grey Nuns and Providence Dispensaries.

The use of quinine and iodide of potassium in the treatment of acute rheumatism is not a novelty, nor an unknown fact, as almost every author mentions it, although they have employed those agents separately. There is not perhaps any disease so frequent, so suffering, and for which no given mode of cure has yet been discovered. Why is this? Is it because the disease is unknown? No, as Aritie mentions it, since the highest antiquity; after him Sydenham, and many others since that time. Is the nature of the affection so obscure that no appropriated treatment can be discovered? I should think not, as almost all authors agree in considering the affection as a special inflammatory disease or a phlegmasia *sui generis* whose manifestations or symptoms are so well defined that any mistake in the diagnosis is rather impossible. The reason of this is perhaps, in the fact that every author thinks his own way of curing a disease better than any other, or would be hurt in his *self-love* in giving credit to another for his innovations. Some of them, as *Chomel*, would treat the affection with few bleedings and mercury; *Bouillaud* says, bleeding (saignée coup-sur-coup) is sufficient. Others will prescribe only the *alkalies*, Valleix quinine. I think that in medicine more than in any other science, it is rather difficult to be positive; and to heal an affection with a treatment always the same is impossible. First, because the disease varies often according to the *idiosyncrasy* of the patient, and sometimes on the sickly conditions under which he stands. Then rheumatism being a special disease, no mode of cure having yet been discovered, wisdom tells us to have no invariable treatment, but to choose amongst them all, or combine them to obtain our design, that is *cure*. Every one knows the ordinary duration of the disease. Some say nine days, as *Bouillaud: Pinel*—six to sixty; *Chomel* says that he has seen it continue for three months; but the general opinion, I think is from the twentieth to the thirtieth day. This long duration of the disease is perhaps the cause of the numerous and various treatments practised. The physician, bearing in mind to save suffering to his patient, varies his treatment until he produces the effect he desires. It is known that *quinine* given in large doses, as *M. M. Briquet and Monneret* prescribe it, shortens very much its duration. Some years past Dr. Levins of Liverpool has combined quinine with iodide of potassium, and this, he says, with the best result. He never prescribes more than two grains of the former with five grains of the latter.

Parting from this fact, I have tried the treatment, varying a little in the dose, and far from claiming any credit for myself in the success, but only with the view of corroborating facts, I give you the following case of acute rheumatism treated by the combination of quinine and iodide of potassium, thinking it my duty, as every forward step made to shorten the duration of such a suffering disease is worthy of notice.

The 11th of May last Mr. W., a stone cutter, was seized with acute rheumatism, the disease affecting the ankles, the knee joints, wrists, and one shoulder—strong odourous perspirations, and tongue white coated. I immediately opened the bowels with five grains of calomel and twenty grains of jalap and ordered the following mixture, sulph. quinine ℥ j., iod. potassium ℥ ij., acid sulp. dil. ℥ ss. aquæ ℥ viij., a tablespoonful to be taken every four hours. Six days after—that is the eleventh—the patient left his bed, walked on the twelfth about his room, and two days after was out and perfectly cured. Two other cases that I have had last winter went on very near as well, the patients being out ten days after the beginning of the treatment. As I have said, I do not claim any credit for the success, knowing that perhaps at the next occasion the same treatment will fail; but I thought I did right in mentioning it, as the result is as good as by any other mode of treatment.

Case of Traumatic Inflammation of the Knee-joint. Recovery without anchylosis. By HERBERT H. READ, M.D., L.R.C.S., Edinburgh.

On August 2nd., 1864, I was called to Leonard R., aged 12, whose right knee-joint had been opened three days previously, by a transverse incision on the inside of the joint. The cut was an inch and a half in length, and part of it was in the line of articulation. Synovia had escaped, and his uncle, who carried him into the house, could see into the cavity of the joint through the gaping wound. An attempt was made to keep the edges together by strips of plaster, but it was ineffectual, and when I saw him, they were three-fourths of an inch apart, and the wound was filled with healthy granulation. There was neither pain, swelling nor redness about it, and I drew the edges of the cut together, and maintained them in opposition by long strips of plaster, afterwards applying the long splint.

August 10th, severe pain suddenly seized the knee, followed in a day or two by a great swelling. I saw him on the 13th, found him suffering intense pain, the knee greatly swollen, the wound gaping widely, and filled by a dense slough which I divided.

The inflammatory fever was of course great. I directed poultices to be applied, gave him a sedative and diaphoretic mixture, with chlorodyne at night, and put the leg on the splint recommended by Mr. Barwell for the hip-joint disease.

Saw him again, August 26th. The wound was discharging freely, pain and swelling still great, and he was much emaciated, and worn out. This state of things continued for some days when the pain and discharge lessened. They subsequently returned with great force, though while the discharge was at its height the pain ceased. Shortly afterwards the flow gradually decreased, and in ten weeks from the receipt of injury, the wound was entirely healed; the inflammation had gone, and his appetite and strength were returning. The splint was still kept on until he began to sit up. I saw him again January 28th, 1865.

The knee was swollen considerably on both sides of the patella, which floated loosely. There was no tenderness on pressure. *He could bend the leg nearly to a right angle with the thigh.* He limped but slightly, and had been driving a team in the woods more than a month. I have not seen him since; but during this month his brother informed me that now the wounded limb is nearly as good as the other, and the motion in the joint is nearly as great as in the sound one. His only inconvenience is, that continued exertion and exposure to cold cause pain in the knee.

I attribute the favourable result in this case mainly to the use of Barwell's splint.

Windsor, Nova Scotia, June 19th, 1865.

HOSPITAL REPORTS.

Caries of the heads of the Metacarpal bones of the right hand. Under the care of Dr. Fenwick. Reported by Mr. R. S. Parker.

J. B., aged 25 years, native of Ireland, was admitted into the Montreal General Hospital, May 1st, 1865.

He is a man of delicate conformation, scrofulous taint, and has a tendency to phthisis, though there is no apparent disease of the lungs.

The patient belongs to the City Police force; and in July of last year, while in the discharge of his duty, he received a blow from a whip handle on the ulna side of the right hand, which did not, however, prevent his arresting the prisoner, a carter, who thus energetically resisted his authority. The following day the part was swollen and stiff, and he suffered considerable pain of a burning character. On application to the

police surgeon, the hand was freely painted with tincture of iodine, and he was enjoined rest. He was altogether about six weeks off duty, during which time various means were resorted to, such as the frequent application of iodine, cold douche, &c., but no internal remedies were employed. At the end of this period the swelling was somewhat abated, but the part was still exceedingly tender and the fingers very stiff. This state of things continued for some months, when about the early part of January, 1865, an ulcer formed on the back of the hand about the middle of the metacarpal bone of the ring finger; at the end of a few days a second ulcer formed over the head of the metacarpal bone of the little finger, the edges were raised and indolent in appearance, and had a tendency to spread. They were treated by various lotions and unguents which would reduce the ulceration in size, but only for a time, as they invariably broke out afresh. Worn out with pain and discouraged by the results of treatment, he applied for relief at the Montreal General Hospital, when he came under the observation of Dr. Fenwick, who diagnosed caries of the heads of the metacarpal bones.

May 2nd.—*Operation.*—Having been carefully placed under chloroform an incision was made along the outer side of the hand extending from the base of the little finger to near the styloid process of the ulna. The metacarpal bone was at once exposed and found denuded of its periosteum and extensively cariesed; it was with ease separated from the adjacent parts, snipped across about its centre and removed; the bone of the ring finger was also found diseased; and in like manner with more difficulty, however, treated in the same way, less of the shaft requiring removal. No further disease being apparent, the wound was stuffed with lint, and water dressings employed. On the second day after the operation the fingers were supported by a gutta-percha splint, as the little finger had a tendency to fold under the others. During the operation the tendons of the muscles were carefully pushed out of the way; in fact they were not seen if we except the extensor tendon of the little finger which came into view, but was uninjured. The case progressed most favourably, the wound rapidly filled up, and the ulcers on the hand disappeared. The patient was placed on generous diet with quinine and iodide of potash; and passive motion was enjoined at the end of three weeks. He was discharged cured on the 17th June, with a most useful hand; the fingers are foreshortened, but he enjoys free motion, can write with comparative ease, and expressed himself quite satisfied with the result of the cure. The case is of interest as showing the amount of injury and destruction of parts liable to occur from a comparatively trifling blow. It is somewhat singular that the matter which must have

formed beneath the periosteum should have taken four months to shew itself, as appears from the history of the case. It is possible that the action was slow from the fact of the man's health being by no means good; still from all we can learn, he had lost considerable flesh, and had suffered much constitutionally from the continued annoyance, both mental and physical, of the disease. The result has been very satisfactory, as is attested by the man's improved appearance and the restoration of a useful hand. The removal of the limb had been recommended by one surgeon, which had greatly affected his spirits.

REVIEWS AND NOTICES OF BOOKS.

Lectures on Surgical Pathology. By JAMES PAGET, F.R.S., Surgeon to St. Bartholomew's Hospital; revised and edited by William Turner, M.B., Lond., F.R.C.S.E., F.R.S.E., Senior Demonstrator of Anatomy in the University of Edinburgh. Third edition; Philadelphia, Linsday and Blakiston. 1865. Montreal; Dawson Brothers.

There is certainly no English pathologist who has attained to the eminent position now held by the distinguished author of the above volume of lectures on Surgical Pathology; and this position has been gained after years passed in toil and unwearied exertion in the special department to which he has devoted his great talents and energies. Perhaps there is no special subject in medical science, which requires more labour, more thought, and in which there is a greater field to theorise, than that of Pathology. True, a pathologist should take his ideas and his deductions from nature—and nature deals in facts, yet, the plenitude of these facts give room, when the mind is imaginative,—to theorise. We would not condemn a theorist, for without them we would often feel at sea; yet too much theory is apt to make practice uncertain and defective. Mr. Paget has, so far as we have been able to examine his large volume of between seven and eight hundred pages, avoided this, to our view, dangerous tendency. With the magnificent museum of the Royal College of Surgeons, England, at his disposal, as one of its professors, and his experience gained while surgeon at St. Bartholomew's, he had facts sufficient, and with them he has mainly dealt. When theory has seemed essential, his deductions are well drawn, with a true connecting link between fact and theory. In these lectures, first delivered before the College of Surgeons, between the years 1847–52, when the

author was professor of Anatomy and Surgery to the college, there is an ease and a grace running through them which indicates the accomplished scholar. The present edition has been revised under the direction of Mr. Turner, the able anatomical demonstrator of the University of Edinburgh. In the preface under his signature Mr. Paget says, "I was anxious that they should be revised with all the light of the knowledge of pathology acquired since their publication, yet a thorough revision of the whole subject was a task for which I feel unfit. For in the passage of nine years I had been carried into the active practice of my profession; and at the end had not sufficient time, for either studying or thinking carefully about the many facts and probabilities, and guesses at truth which had been added to pathology: I was therefore glad to be able to commit the work of revision to my friend and former pupil, Mr. Turner, whom I knew not only to be very conversant with the progress of medical science, but able to test others' observations by his own. It is not for me to say, how well he has done his work, for I have so worked with him, as to be equally with him responsible." The first two lectures are devoted to nutrition—then follows several on growth, healthy, and diseased. On the subject of fatty degeneration, Mr. Paget says:

"The whole history of fatty degenerations concurs to prove that they are the result of defects, not of disease, of the nutritive process; and that they may therefore be classed with atrophy which we recognize in merely diminished quantity of formation. * * * On the whole therefore we must conclude that something much more than general tendency to form fat, or a general excess of fat in the blood, is necessary to produce a local fatty degeneration. The general conditions are favourable, but not essential to this form of atrophy. * * * The most common form of fatty degeneration is that in which you find, on opening the heart that its tissue is in some degree paler and softer than in the natural state, and lacks that robust firmness which belongs to the vigourous heart. But what is most characteristic is, that you may see especially just under the endocardium spots, small blotches or lines like undulating or zig-zag, transverse bands of pale, tawny, buff, or ochre-yellow hue, thick set, so as to give at a distant view, a mottled appearance. These manifestly depend, not on any deposit among the fasciculi, but of some change of their tissue. For at their borders you find these spots gradually shaded off, and merging into the healthy colour of the heart; and when you examine portions of such spots, with the microscope you never fail to find the fatty degeneration of the fibre. The yellow spotting or transverse marking of the heart may exist in the

walls of all its cavities at once, or may be found in a much greater degree in one than in others. It may exist on all parts of the thickness of the walls, or may be chiefly evident beneath the endocardium and pericardium." It is far less common in the auricles than in the ventricles, and when it exists simultaneously in all parts, is less advanced in the auricles. It is more common in the left ventricle than in the right; and in the left ventricle it is commonly most advanced on the smooth upper part of the septum and in the two large prominent fleshy columns. Indeed it may exist in these columns alone; and when, in such a case, the rest of the heart remains strong, may account for the occasional occurrence of rupture of the column.

"These yellow spottings of the heart, produced by degeneration of scattered portions of its fibres, are, as I have said, the most evident, as well as the most frequent, indications of its degenerative atrophy. But a similar affection may exist in a worse form, though it be less manifest; worse because the degeneration is more extensive and less distinctly visible to the naked eye, and must be recognized by the touch rather than by the unaided sight. The whole heart feels soft, doughy, inelastic, unresisting, it may be moulded and doubled up like a heart beginning to decompose long after death; it never seems to have been in a state of rigor mortis."

These extracts, briefly describing the two principal varieties of fatty degeneration, give but a faint idea how the subject is handled by our author. We will give but one other extract, and that concerning a question, regarding which there is some difference of opinion; we refer to the method by which fractures are repaired.

"A subject of chief interest in the repair of fractures is the position of the reparative material. * * * There are two principal methods. In one the broken ends or smaller fragments of the bone are completely enclosed in the new material. They are ensheathed and held together by it, as two portions of a rod might be by a ferrule or ring equally fastened around them both. In such a case the new material surrounding the fracture has been termed "provisional callous or external callous;" but the term ensheathing callous will, I think, be more explanatory. In the other method the new material is placed only between those parts of the broken bone whose surfaces are opposed; between these it is inlaid, filling the space that else would exist between them, or the angle at which one fragment overhangs another, and uniting them by being fixed to both. Reparative material thus placed may be called intermediate callous. * * * * The method of repair with an "ensheathing or provisional callous" is rarely observed in man, but appears to be frequent in fractures of the long bones in animals. Mr. Paget then describes the repair

in animals, stating he has never seen it as a natural result in man, in any bones, but the ribs, and that in the human subject bones are repaired by "intermediate callous."

We have not space to follow our author further, but we may remark that almost every subject in surgical pathology is touched upon, and we need hardly add, treated with wonderful ability. Every physician and surgeon wishing to post himself in all the latest pathological facts, would do well to obtain a copy of this work.

A Monograph of Glycerin and its uses. By HENRY HARTSHORNE, A.M., M.D. Philadelphia: J. B. Lippincott & Co. 1865. Montreal: Dawson Brothers.

This is a most unpretending little volume of about seventy pages, on glycerin, its history, properties, manufacture, chemical relations, adulterations, tests, medical uses, &c. It is only about ten years since this useful agent was to be obtained in anything like purity, although its primary employment as a medicinal agent dates some ten years earlier. Its progress as a pharmaceutical agent has been slow, and among medical men there has apparently been a strange indifference to its employment. Even in some affections, where its efficiency has been proved beyond the shadow of a doubt, perhaps some have tried an impure article, and met with disappointment. Now, however, that glycerin can be obtained perfectly pure, and the means of testing it are well understood, and very simple, we believe it is but just entering upon the wide field in which, we have no doubt, it will be found extremely valuable. Glycerin is perhaps one of the most elegant menstrua for the preparation of microscopic objects, its use in this respect far surpassing Canada balsam, at least so far as our experience extends. It is not alone as a remedial agent that glycerin is to be regarded. In combination with belladonna, it forms one of the most elegant and useful applications as an antilactescent—and in various applications for diseases of the skin it enters largely. It is said that the manufacturer of spurious wines owes to glycerin the oily appearance by which the fluid adheres to the glass,—a circumstance looked for by connoisseurs and regarded by many as an evidence of the genuineness of the liquor. Mr. Hartshorne's little volume is a complete compilation, and gives an insight into the numerous uses to which glycerin may be put. All who are desirous of obtaining an insight into the uses of this agent, will find in this little book all that is necessary to know. We can confidently recommend it to our readers. To be had of Dawson Brothers, Great St. James street.

Medical Lexicon.—A dictionary of Medical science containing a concise explanation of the various subjects and terms of Anatomy, Physiology, Pathology, Therapeutics and Pharmacy, Surgery, Obstetrics, Medical Jurisprudence, &c., &c., &c. The accentuation and etymology of the terms and the French and other synonms so as to constitute a French as well as an English Medical Lexicon. By Robly Dunglison, M.D., LL.D., Professor of Institutes of Medicine Jefferson, Medical College, pp. 1047. Philadelphia: Blanchard and Lea. 1865. From the publishers.

This is perhaps the book of all others which the physician or surgeon should have on his shelves. It is more needed at the present day than a few years back, as it seems to be the rage of the profession, as it certainly is the practice to coin new words. The ordinary reader becomes intensely disgusted or most thoroughly mystified in taking up a modern work on any of the subjects connected with medical science. The host of new terms in use are perfectly amazing; for ourselves, we have always regarded our own mother tongue as quite sufficient, and therefore are not desirous of stretching into the labyrinth of speculation in search of some compound which is calculated to mystify and render obscure our noble art—but our simple code is not in general use, therefore it becomes necessary to have the key to the many terms employed and adopted by teachers and writers in medicine. To our readers we can confidently recommend this volume; the explanations are clear, concise, and we have examined it in many parts in search of words, the very meaning of which we did not know, and our friend came to our assistance with a full and clear explanation. It is to be had of Dawson Bros., Great St. James Street.

Lectures on Public Health, delivered at the Royal College of Surgeons, Ireland. By E. D. Mapother, M.D., Professor of Hygiene, and Health Officer for the city of Dublin. Dublin: Fannin & Co. From the Author.

It is the pride of the present age that we are immeasurably in advance of those who, centuries ago, trod this same earth of ours. If, however, we surpass them in the speed of our travelling, in our mode of instant communication with distant parts, it is certain that we are far behind them in almost every measure which relates to the sanitary condition of the masses. To prove the correctness of this fact we need only look at the fulness and positiveness of those Mosaic laws which refer to public health. None more appropriate to people living in the same climatic

conditions could be devised; and to-day in classic Rome the ruins of gigantic aqueducts and sewers, attest the knowledge of sanitary measures by heathen Rome. In this particular we have indeed, we believe, degenerated, and we must confess that our hopes of a speedy reform are not of the most brilliant character. It is hard to convince those in authority, and still more so the public, that thousands of lives are actually wasted each year in every large city, simply from the neglect of proper sanitary precautions, and yet such is the truth. Is it not proven by the fact that in certain cities where sanitary reform has been attempted through the agency of a properly qualified health officer, that the ratio of the deaths has decreased—as much as twelve per cent, in some. Let us take Liverpool, a large sea-port town, inhabited by natives from every clime. In 1842 one third of its labouring population lived in cellars about twelve feet square, sometimes less than six feet high, often without windows, and only lighted and ventilated by a door, frequently below the level of the street. In 1846 its death rate was 38, but owing to the philanthropic labours of the late Dr. Duncan, in carrying out improved sewerage, closing of cellar dwellings, preventing overcrowding, and at once separating contagious disease, it has been reduced to twenty-four or less than two-thirds its former rate, thus saving to the city annually 4,000 lives hitherto actually wasted. Does not this single instance—and we might quote others—prove incontestably that any city neglecting the sanitary condition of its inhabitants, is acting most unwisely, we may, with truth, say acting most insanely. The mortality of Montreal is vastly too great—year after year hundreds of lives are wasted, which might be saved, had those whose duty it is to attend to such things but devoted a little of their energy in the proper direction. We have been in habitations where dwelt the semblance of humanity—places not fit for the brute creation—perfect pest-houses to the entire neighbourhood—places that the city should have authority to demolish at a week's notice; and we believe these remarks apply to every city in the Province. When our City Council have a proper appreciation of the benefits that may be had from sanitary science, they may, perhaps, learn that Montreal may be rendered less unhealthy, and see the necessity which exists for the appointment of a health officer—an office similar to that held by Dr. Mapother, whose able lectures we have perused with great pleasure. They were delivered last fall at the College of Surgeons, Dublin, to mixed audiences, and embrace, among other subjects, air, its impurities, ventilation, disinfection; water impurities; food, its physiological purposes; healthy skin, baths, clothing, sanitary architecture, dwellings, sewerage, &c., &c., &c.

Such a volume is capable of doing a vast amount of good; and so con-

vinced are we of the benefits likely to result from its perusal, that we would urge every one who can to obtain a copy—especially those in authority. It is not at all expensive, and our publishers, Dawson Brothers, will be glad to import any number of copies. Our apologies are due to its talented author for the delay which has occurred in the noticing of his work. Our only excuse is that we wished first, to read the volume carefully through, and various unforeseen circumstances have hitherto prevented our doing so.

PERISCOPIC DEPARTMENT.

Medicine.

TYPHUS FEVER.

In the *Lancet* Dr. Gairdner remarks upon the causes of this disease that as many cases as possible should be left to their natural course, unaffected either by drugs or stimulants, and that he is convinced of the safety and expediency of leaving many cases of typhus to take their *normal* course; he further believes the normal course may be very easily altered for the worse by what is called treatment; and in particular, as regards the period of the crisis, that the habitual or constant exhibition of drugs and stimulants has a great tendency to mask the disease, to disturb or to retard the crisis, and by so doing to increase the mortality. He is satisfied that there are many practitioners who scarcely ever see a normal case of typhus, owing to their perpetual and systematic interference by drugs and stimulants; and it is even a question with him if the written descriptions of previous epidemics have been largely vitiated by this cause, the disease being to some extent, as it were, disguised or perverted from its natural and favourable course by the treatment.

"There are, however, one or two further precautions that must be taken before you can hope, I do not say to avoid disturbing the crisis in typhus fever, but to avoid killing your patients outright, or rather letting them die of sheer neglect. You must feed your patients, and you must feed them chiefly on milk. Milk or buttermilk is with me the staple food in typhus; and I will even say that I know no other food that can be depended on. Yet I see, and always see with a new surprise, descriptions of the treatment and dietetics of fever in which not a word is said about milk, and a great deal about beef-tea, wine, whiskey, brandy, and all manner of things supposed to be more strengthening or stimu-

lating than milk diet. Now, I tell you frankly that treating fever patients without plenty of milk is a thing that I do not understand at all; for I suppose I have not treated a single case of fever of any kind for the last fifteen years (I cannot make precise statements beyond that date) without milk, and I always proceed on the understanding that milk in fever is the one thing needful as diet—always to be given and given liberally, whether specially ordered or not. To give wine, whiskey, and beef-tea, while withholding milk, is simply, in my opinion, to destroy your patient; and the more wine or whiskey you give, while withholding milk, the more sure you will be to destroy your patient soon, because you are thereby superseding the natural appetite (or what remains of it) for a nourishing and wholesome diet—if it can be so called by a diet—which poisons the blood and checks the secretions, and alters for the worse the whole tone of the nervous system and of the digestion and assimilation. I believe that infinite mischief has been done in typhus fever, and in all fevers, by giving wine, and by withholding, or not giving milk. Under a false theory of administering alcoholic food, it has resulted, not that only natural and genuine food has been withheld, but that the small remaining amount of appetite for such food has been obliterated, and not unfrequently, even at an early stage of the disease, the patient has been practically disabled from taking any proper nourishment at all.

CLINICAL LECTURE ON VENESECTION.

By W. O. Markham, M.D., Physician to St. Mary's Hospital.

Gentlemen,—I have to-day to bring under your notice two cases which, as I think, illustrate in a striking way the beneficial effects of venesection. In both cases, the patients were suffering, and suffering severely, from lung diseases; and in both the symptoms for which the venesection was practised were those which represent in a marked degree interference with the free play of the heart and lungs. I will, in a few words, relate the history of these cases; and then make a few remarks touching the operation of the venesection in their cure.

J. J., aged 36, a healthy man, was seized about a week before his admisson into St. Mary's Hospital, with difficulty of breathing and "stitch" in the right side. These symptoms increased up to the time when he entered the hospital. When I saw him, the morning after his admission, he was sitting up in bed, fighting for breath, and, as he expressed it, felt almost suffocated. His pulse was rapid; his tongue moist and coated; and his face livid. He had been delirious during the night. An examination of his chest, hastily made, showed us that he was the subject of

double pleuro-pneumonia, and that there was complete dulness on percussion before and behind over at least three-fourths of the right lung. Now, if ever one might venture to predict, from a consideration of symptoms and physical signs in such a case, that the patient was being surely and rapidly asphyxiated; and that, unless some immediate and great relief were quickly given him, he would inevitably perish, assuredly one might have done so in this case. Guided by this impression, and considering that the man had only been ill a week, and had previously enjoyed good health, I ordered him to be bled at once, and freely bled—*i. e.*, until he showed signs of relief or fainting. I may here remark, as a curious sign of the times we live in—of the revolutions which periodically occur in medicine, as well as in all other things—that the house-surgeon had never bled a patient, nor had seen lancet used in bleeding! About sixteen ounces of blood were taken from the man's arm, to his very great and immediate relief. The pain in the right side (where the pleuritic symptoms were most acute) returned again in the evening, and therefore some eight or ten leeches were then applied. Next morning, the man was, comparatively speaking, in a most comfortable state. He no longer suffered from those urgent, and, as I deemed them, fatal signs of distressed breathing, which afflicted him the day before.

And what had brought all this so great relief to him, if not the venesection? Surely, if in any case we may draw conclusions that the relief given in disease was the result of the remedy administered, we may do so in such a case as this, where the nature of the disease is so manifest, where the relief following the remedy is so undoubted, and where it follows so immediately upon its use. More than this; it may be asked, Is there any other remedy besides venesection which could in such a case have produced relief so great, and so immediate? Well, then, unless we choose to shut our eyes to as palpable a fact as any which can be produced in the matter of the action, of therapeutical agents, it seems to me that we are driven to the conclusion that venesection is, *in such a case*, the most sovereign and life-saving of remedies; that, in the instance before us, it had rescued the man from impending death. I do not intend to follow out the history of this man's case through his long convalescence. I will only add that, in addition to the double pleuro-pneumonia, he was afterwards attacked with pericarditis; and that subsequently a pleuritic abscess of the right side opened into, and discharged its contents through the lungs and the trachea. Notwithstanding all this long catalogue of serious affections, he eventually left the hospital convalescent.

The other patient, alluded to as illustrative of the beneficial uses of venesection, was an adult man, who had occasionally suffered from "asth-

matic" symptoms. When he entered the hospital, he breathed with much difficulty, and, in fact, suffered "excruciating" pain in the left side. His respirations were 50 in a minute, and his pulse very rapid. His disease was pneumonia of the left side. He was immediately bled to about fifteen ounces, and was as immediately relieved of his great distress. I will only add of him, that he thereafter rapidly and satisfactorily recovered from the attack, and left the hospital cured.

Now, I call your attention to these two cases, because they seem to me, as far as they go at least, to show the error of the present "extreme in practice," which virtually abolishes venesection from our list of therapeutical agents. I believe that in one of these cases, at all events, the man would inevitably have perished, had he not been bled.

You know the modern theory about bleeding, or rather I should call it the present prevailing theory; for it is no way modern. It is this: that diseases have changed their type: and that men of these days will, therefore, not bear bleeding as men did thirty or forty years ago. I have elsewhere shown, as I think, demonstratively, that this theory is a mere scapegoat which men have made use of as an apology for their own apparently inconssistent conduct—in order, in fact, to explain how it is that they no longer employ venesection as they once employed it in other and darker ages of medicine. I have asked and sought for the *proof* of the assertion that men will not bear bleeding now as they did in those other days; and I find it utterly wanting. I find that the assertion is founded on some indefinite kind of belief—on ordinary medical belief—in fact, on mere surmise and opinion. If you ask men for anything like reasonable *proof* of the opinion, you ask in vain. I showed, in the lectures referred to, that this idea of an incapacity of a man to bear bleeding was flourishing upwards of a hundred years ago—has, indeed, flourished at intervals during all ages, and has been handed down from physician to physician through generations past. A hundred years ago, Hunter tell us that some of the physicians of the day discovered, just as physicians of our day have done, that diseases would not bear bleeding as well as they did formerly. Medicine is continually repeating its own errors. At this moment, however, I only ask you to keep these two cases—surely I may call them these two facts—in your eye, when you may be tempted at some future day, and in an urgent case, and contrary to your own judgment, to forego venesection solely because you have a dread of this bugbear of a change of type in disease—of some modern incapacity of human nature to bear loss of blood. Just reflect again on what you here see going on around you daily and hourly in this matter of loss of blood. Look at patients, after accidents, lying in our surgical

wards blanched through loss of blood. Note the enormous quantity which wells away from women during labour; measure the black vomitings of patients suffering from ulceration of the stomach, and the bloody sputa sometimes thrown up in tubercular disease of the lungs; note the large dejections of blood which often accompany ulceration of Peyer's glands in typhoid fever: note all these, and many other sources of often most copious hæmorrhages which you see going on daily under your eyes in the hospital; and note also that these patients recover, and recover rapidly, from the effects of such large hæmorrhages. Mark how little they exhibit of that incapacity to bear loss of blood which they ought to exhibit if there were any truth in the theory that we are now living in an asthenic phase of diseases. More than this: I might ask you to observe the very great relief which these spontaneous hemorrhages often bring with them, especially in those cases of disease in which the lungs and the heart are concerned.

Well, gentlemen, if you will note all these facts, and then carefully reflect upon them, and you will, I am sure, at all events, have your belief greatly shaken in the truth of the idea that to take a few ounces of blood from a man by the lancet is something akin to taking the very life out of his body. These reflections will shake your confidence in the truth of the theory upon which is based the modern practice of non bleeding in disease. And then if you will also call to mind the markedly beneficial effects following the bleeding, and noted by your own eyes, in the two cases here spoken of, you may probably be induced, on proper and fitting occasions, not to fear to resort to this most excellent of remedies. This is the lesson which I have wished to impress upon you to-day.

And one word more, let me say, as to the probable action of the venesection in cases of this kind. The idea generally entertained on this point is, I believe, quite erroneous, and, what is worse, an error, which prevents the use of the remedy. It is thought venesection is of service in inflammatory diseases, through the beneficial influence which it exercises over the local inflammatory process. I believe there is no proof whatever that venesection has any directly beneficial influence over any inflammatory process. If venesection be of service in internal, it should equally be of service in external, inflammations—*i.e.*, in those inflammations whose progress we can see with our eyes But in what records of "bleeding" times, will you find any satisfactory proof that it ever was of service, in such inflammations? and where will you find an authority of the present day to tell you that he has seen the benefits of venesection in external inflammations?

The truth is that, in past days, when venesection was in its glory—I

mean gloriously abused—you will ever find that its benefits were most loudly proclaimed in those internal inflammations in which the action of the lungs or heart were impeded; and, assuredly, at the present day, there is never any pretence or thought of bleeding a man, except in those diseases in which the respiratory or circulatory organs are directly or indirectly affected. Facts like these, and other facts which I have not time now to tell of, indicate *a priori* the correctness of the proposition I here make to you,—viz., that venesection has no directly beneficial influence over the inflammatory process itself; but that it is of benefit, by removing some of the accidents which arise secondarily out of those inflammations and diseases—viz., the impediments to the free play of the lungs and heart. No one ever did, or ever does, think of bleeding in pneumonia unless the pneumonia be so extensive as to seriously interfere with the play of the heart and lungs. Men always did, and always do, judge of the necessity for the venesection by the amount of impediment to the action of those organs displayed in the physical signs and symptoms which indicate the impediment and the nature of it. The benefits of the bleeding, as I see the thing, are not the result of any good effected by it at the seat of the inflammation—of any good directly effected by it over the inflammatory process. Its benefits are rather to be ascribed to the freedom of action —the relief given by it to the play of the other, the uninflamed parts of the lungs, and the engorged heart—of the organs or parts in fact which have become secondarily engorged—*i.e.*, impeded in action, in consequence of the inflammation. The bleeding neither arrests nor alters directly the condition of the inflammatory process.* It neither cuts the inflammation short, nor can it remove the exudations which are the necessary attendants of inflammation. In what possible way can bleeding alter directly the condition of a consolidated portion of lung? In the case of J. J., the bleeding most assuredly effected no instant change in the state of the inflamed parts of the lungs and pleura. But nevertheless the relief given by it was immediate—came whilst the blood was flowing from his arm—as it always probably comes, if the bleeding be of any service at all. Also, remark that the relief here given is just of the same kind as that which is given in cases, for example, of chronic diseases of the heart, and of thoracic aneurism; in cases where impediments to the action of the heart and lungs, or, in other words, congestion of the heart and lungs, have suddenly arisen, and where inflammation does not exist. Hence, therefore,

* Of course excepting in so far as by modifying the general state of the system, it may modify the general forces which are concerned in or preside over the process.

when bleeding is of service in the course of inflammatory diseases it is so, not because it directly alters the inflammatory process, but because it relieves certain of the accidents which arise incidentally out of the inflammatory process—*i.e.*, the congestion of the heart and lungs. Bleeding therefore, it may be said as a corollary of this, is of service only in those inflammations and diseases in the course of or out of which arise impediments to the play of the heart and lungs.

But, after all, let no theoretical arguing draw us away from the patent fact which we have seen with our eyes. We saw a man, to all appearances *in extremis*, fighting an unequal battle with disease. We found him to be the subject of double pleuro-pneumonia. We saw an immediate stop, then and there, put to the violence of this deadly struggle by bleeding. We saw the man recover from the moment of the bleeding. You may have heard him declare that the bleeding was the saving of his life —though you need not perhaps take any great account of a patient's opinion on such a point. You have seen all this. Well, gentlemen, I trust I have sufficient sense of the fearful amount of fallacies which beset our medical reasoning—of what Dr. Barclay calls our "medical errors" —I believe I have a sufficient dread of the proverbially reigning confusion in our ideas of the *post hoc* and the *propter hoc* in matters therapeutical. But I think a man must be sceptical indeed, beyond all bounds of reason and common sense (if we may invoke that sense here), who refuses to connect effect with causation, the consequence with the antecedent, the cure of the disease with the venesection, in the cases I have to-day brought under your notice. And this one other word let me add suggestively. What other remedy do you know of under the sun which is capable of producing off-hand, then and there, such great results in such formidable disease?—*British Medical Journal.*

THE BLISTER TREATMENT OF ACUTE RHEUMATISM.

(Case under the care of Dr. Davies of the London Hospital.)

The profession will welcome any new and reasonable therapeutical means in the treatment of a disease so common and so dire in its effects as acute rheumatism. Few diseases add so largely and in so many ways to the mass of human suffering. Although it rarely kills, it frequently incapacitates the patient for active life, and, besides, it is the parent of many other definitive diseases—as chorea and paralysis. In itself, or so far as the patient knows, it is a mere question of a few weeks' severe pain. Although in great distress and helpless, he is nearly certain to get through it. And at one time, before its connection with heart affection

was known it was not thought by medical men to be a very serious disease. No treatment, however, can be worthy of the name which does not tend to keep off cardiac complication. To do this ought to be the great object of all treatment, and any plan that falls short of it, however much it may relieve the patient's suffering, is a failure. In spite of all that has been done in the treatment of this disease, we are continually meeting with cases of heart disease in the out-patient's department of our large hospitals.

Now, most physicians are agreed that one important way of preventing cardiac complication is to cure our patient quickly. To do this many plans have been urged, and the most recent is that brought forward by Dr. Davies—viz., by free blistering. We think that by far the most important statement in his paper is—"In no case when the heart was sound at the time of admission did any organic lesion develop itself." We may just add, however, that there are few diseases about which there are more flatly contradictory opinions as to the results of any particular method of treatment than acute rheumatism. Thus the alkaline treatment is much relied on by many physicians, but at Guy's Hospital we see cases treated by Dr. Gull by a placebo—*e.g.*, a little extract of taraxacum and water. This physician avers that this no-treatment, or rather no-drug-treatment, is quite as good as the alkaline method. He speaks from experience, as he has carefully tried both. The patient gets well, he believes, as soon, and the heart is as seldom attacked, under one as under the other. Dr. Davies' plan seems to us to be a medium betwixt drug treatment and what we may call treatment by time. We shall give, next week, particulars of two cases under the care of Dr. Greenhow, followed by remarks by that physician, in which it will be seen that the results were favourable. Dr. Davies' plan has been tried with success in other hospitals, and we shall report, shortly, a case treated by Dr. Jeaffreson, in St. Bartholomew's. Many cases have been treated in the London Hospital since Dr. Davies' paper appeared, and we now give the following example:—

The most striking feature in Dr. Davies' method of treatment is, that it is absolutely and entirely local. In the cases he relates, no drugs, except an occasional purgative, were given. Wherever a joint was inflamed, there a blister was put on. The blisters are to be applied quite round the affected limb; not on, but near to, the inflamed joint. When a large joint like the knee is affected, the blisters should be two inches wide. They should be put on, he says, at "the very height of the inflammatory stage, when the local pains are the most severe and the constitutional disturbance the greatest." Poultices should be afterwards

applied to prevent flow of serum. In one case nearly 300 square inches of blisters were applied. It may be thought that, as regards pain, the remedy is worse than the disease, but the contrary is the fact. The patients like the blister treatment, and it has never caused strangury in any of Dr. Davies' cases, except to a trifling extent in one case.

This seems at first sight a strange way of treating a blood disease like acute rheumatism, but, as Dr. Davies' shows, under this treatment the urine will become neutral or even alkaline. So then, the treatment, although local, produces that condition of the urine which is generally aimed at in the common treatment by alkalies. Dr. Davies uses local means, as he thinks the poison locates itself in the inflamed joints. He believes, indeed, that the blood is not loaded with the *materies morbi*, but that it is deposited in certain tissues which have temporarily an affinity for it. Instead, then, of giving alkalies to *neutralize* the "acid poison," he thinks we should try to *eliminate* it by blisters applied near the points where it is then accumulated. Whether Dr. Davies' theory of the action of his remedy be correct or not, the practice seems to have been very successful, and is deserving of careful trial in our hospitals. It is purely a question of fact. Does the blister treatment shorten the duration of acute rheumatism and prevent heart complication? If further experience shows that it does accomplish these two important objects, Dr. Davies may be congratulated on having increased the powers of usefulness of our profession in no small degree.

The following case is supplied to us by Mr. J. E. Adams, assistant-resident medical officer to the hospital:

Ann S., aged 25, married, was admitted November 30th, for acute rheumatism. It had begun eight days before, and was her first attack. Her health had usually been good, but lately she had been weak—*i.e.*, since her confinement three months before.

When admitted, she had all the constitutional symptoms well marked. Her tongue was furred, there was great thirst, complete anorexia, she could not sleep, her pulse was 108, and temperature 100°; secretions acid. There was intense pain in both shoulders, both hips, in the left wrist, hand, knee, and ankle, and they were hot and swollen. There was also a very soft systolic murmur audible at the apex of the heart. Blisters were at once applied to all the affected joints, ten in number; and no medicine was given beyond an opiate at night.

Next day there was very little pain in the blistered joints, but the hand was now affected. The constitutional symptoms were about the same, but there was slight strangury. Two blisters were ordered for the right hand. The next day there were no rheumatic pains, the pulse was

diminished in frequency, tongue cleaning, but there was little sleep, and the appetite had not returned. The sweat was still slightly acid; urine and saliva neutral; strangury very slight. Two days later the pulse was reduced to 80; temperature 99°. She had passed a comfortable night, and the appetite was returning.

From this time she improved steadily (having only once a little pain in the left elbow, but no constitutional disturbance) and left the hospital on December 20th, perfectly well, the condition of the heart being the same as on admission.—*Medical Times.*

ON THE BEST METHOD OF DETECTING SMALL QUANTITIES OF ALBUMEN IN THE URINE.

By Andrew Clark, Assistant-Physician to the London Hospital.

It is of great clinical importance to possess a simple and certain method of detecting small quantities of albumen in the urine. After a great variety of experiments, I have come to the conclusion that nitric acid used in the manner about to be described—a modification of the plan suggested by Heller—is by far the most sensible, reliable, and handy agent that can be used for this purpose by the physician.

Pour not less than half a drachm of *fuming* nitric acid into a test tube; incline it, and then let a like quantity of the suspected urine trickle down *very slowly* to the acid, over the surface of which the urine will float without the slightest admixture. If albumen be present, a milk white, sharply defined, tolerably tenacious film will form at the exact point of junction of the two fluids. This film is never, at first, thick; and when the amount of albumen in the urine is extremely minute, it may be so thin as to become visible only by reflected light when the test tube is inclined. Occasionally, when very thin, the albuminous film is dissolved in the course of a few hours. Commonly, however, it increases in breadth, diminishes in density, becomes yellow or yellowish-green at its under surface: and throws off minute coagula, which fall through the acid to the bottom of the tube.

Nitric acid used in this manner as a test for albumen is also a test of the presence of uroxanthine, or bile—either or both of which are not unfrequently present in temporary and functional albuminuria.

If, in immediate contact with the acid, a ruby or violet ring is developed, uroxanthine is present; and bile also, if in addition to a red or violet there is formed likewise a green-coloured ring, which remains for some time.

Two feasible objections are urged against depending solely on the employment of nitric acid in the manner described, as a test of the

presence of albumen; and I have myself noticed a third; but a careful examination of their force leads me to the conclusion that they are more theoretical than real.

When urine, rich in uric acid or its salts, or containing much scaly epithelium, is poured over cold nitric acid, a general turbidity arises, which is said to be undistinguishable from that produced by the presence of albumen.

But if the proposed test for albumen be properly applied, no turbidity will be produced by the presence of that substance, unless urates are also present. And then the white film of albumen is separated from the superimposed turbidity by a thin stratum of clear urine.

The turbidity produced by uric acid or epithelium is general, granular-like, and without any approach to coherence.

The turbidity produced by urates is sometimes abruptly defined below by an opaque, ring-like border, sometimes colored, sometimes not; but a stratum of clear urine intervenes between this rink and the surface of the acid, and, as above, the turbidity has no cohesion of parts. Besides this, the turbidity produced by lithates may be immediately dissipated by heat; and, if not in great excess, even by the heat of the hand closed around the tube.

The film produced by the contact of nitric acid with albuminous urine is quite different from any kind of turbidity. Confined to the layer of urine resting upon the acid, white like a disc of compressed cotton, tenacious, and, when shaken with its associated fluids, breaking into flaky fragments, it seems improbable that any but the merest tyro should mistake it for anything but what it is.

In testing for albumen by means of heat and nitric acid, there may be no immediate response indicative of its presence; and yet after a few hours, a flocculent precipitate may form and fall to the bottom of the tube.

A specimen of urine examined within an hour after extrusion from the bladder, may yield unequivocal evidence of the presence of albumen, and cease to do so after twelve hours.

Small films of coagulated albumen produced on the surface of nitric acid, occasionally disappear within a few hours from the time of their formation.

Little importance is to be attached to the presence of small quantities of albumen in the urine of women a day or two before or after menstruation. It is common without any disorder of the kidney, or any sensible discharge from the vulva.

Small quantities of albumen are often present in the urine of women with leucorrhœa, and of those who have recently had fits of hysteria

One is not justified in asserting the absence of albumen in the urine upon the result of one or two examinations. I knew a case in which albumen occured in the urine daily for several months; but it was present only in the urine first passed after breakfast, and was never, to the time of its departure, present in the urine passed at any other time.

Men sometimes discharge a thin whitish glairy fluid with the closing stream of urine in the act of emptying the bladder. This fluid is said to be seminal; but in none of the examples that I have examined were any spermatic filaments present. From its containing mucin, and young cell particles, I look upon it as an augmented and slightly altered secretion of the glands opening into the urethra. When discharged in any quantity, the urine containing it responds to all the ordinary tests of the presence of albumen.

Albumen in small quantities and unaccompanied by casts, may be present in the urine daily for three years, and at last permanently disappear. This occurred in a case under my observation. The health which had previously been bad, rapidly improved after the disappearance of albumen from the urine, and became ultimately very good.

Mere hepatic congestion is sometimes the cause of slight functional albuminuria. I had under observation for some time a lady whose "liver attacks" were invariably preceded by the appearance of small quantities of albumen in the urine. With the free purgation which was found necessary for the removal of these attacks, the albumen disappeared. I remember also the case of a gentleman who was subject to somewhat similar attacks. In his urine, however, free uric acid was associated with the albumen, and both stayed several days beyond the subsistence of acute disorder. But he was a wilful patient, and chose to live well even at the cost of being ill.—*Clinical Lectures and Reports of London Hospitals*, 1864.

Surgery.

A CASE OF LIGATION OF THE COMMON CAROTID ARTERY.

J. P. M. Gray, M.D., California, Mo.

On the 15th day of March, 1865, Mr. Salisbury was brought into my office by a gentleman who held his hand on the neck, as he said, to prevent bleeding. Upon examination, I found a wound in the left side of the neck, made by a bowie knife passing through the sterno-cliedo-mastoid muscle splitting the common carotid artery an inch and a quarter. He was bleeding profusely. I laid him down on the floor, and by the assis-

tance of Dr. Robertson and Wood, attempted to compress the artery below and above. I enlarged the original wound, through the sterno-cliedo-mastoid muscle and other parts until the artery was reached, which was taken up and ligated below. Pressure was taken off from the upper end, when blood continued to flow. I then ligated it above, which stopped the flow entirely. He was taken to the hotel in an almost lifeless condition, having lost a large quantity of blood; but a reaction came, and during the night and next morning, the 16th, he was doing well, with the exception of cross paralysis, (to right side)—sensible but could not speak—tongue paralyzed—17th, doing well as could be excepted, and continued so till the 24th, when his pulse became irregular, and left eye began to fail. During the 25th, 26th, 27th, and 28th, did very well and spoke for the first time. 29th, the vision lost in left eye—the wound doing well. 30th, the upper ligature was removed, and in two or three hours I was sent for, and found hemorrhage (evidently from the sloughing artery above) was the cause. I thought he could not survive, but I had him propped up and pressure made upon the vessel, and in two or three hours reaction came, and by morning he was doing well. April 2d, the lower ligature was removed by Prof. Gregory, of St. Louis—no hemorrhage followed. He could now whisper, and had some appetite. His general health began to improve, and on the 20th he was able to walk about the room. He continued to improve, till final recovery, with the exception of the loss of the left eye, and paralysis of right hand and partial imbecility, which seems to be growing worse, and from present appearances there will be complete dementia in a short time.—*St. Louis Med. & Surg. Journal.*

HARELIP—NEW OPERATION.

Dr. Hammer desired to present to the notice of the St. Louis Medical Society a new method of operating in a case of harelip, which had been followed by the best results. He had mentioned, at a former meeting, that he was not satisfied with the means usually employed to correct the deformity; and had stated, that, should an opportunity present itself, he would institute another proceeding from which he expected the best results. Cases of simple harelip are successfully treated by the ordinary method, but in those which are double, and especially those accompanied by a double fissure, failure often follows the ordinary method of operating. The principal cause of failure is due to muscular action, especially to the action of the levator superiorus proprius, which exercises a continual strain upon the line of union. Any means by which this muscle shall be, or a time, debilitated or paralyzed, will and much to the full success of

the operation. Several methods have been recommended, but they have not borne out the hopes expected from them. The plan which he would detail, and from which he expected the best results, was intended to act upon the the muscles, paralyzing them, and thus relieve the point of union from tension, and place the parts in the best condition for an accurate and firm union. It consisted in a suture additional to those ordinarily employed, and was prepared and used as follows: a largesized double ligature is passed entirely through the lip of one side, at a point above the angle of the mouth, and midway between the mouth and nose; the ligature is carried under the lip to a corresponding point on the other side of the face, where its exit is made; two small pieces of wood—portions of lead pencil would answer, covered by adhesive plaster—are placed at right angles with the line of the mouth, one on each side, and the ends of the ligature tied over each, forming a species of quilled suture. By this means, not only the action of the muscles may be controlled, but the whole mass of flesh can be drawn toward the central opening, thus lessening the space and relieving the central sutures of that undue tension, which is sometimes so great as to cause a separation of the united flaps and a failure of the operation. He had lately an opportunity to use the new method, and was glad to announce a complete success—the ligature having fulfilled even more than he had expected from it. The case upon which he had operated was a very peculiar one, the most deformed he had ever witnessed; the fissure being double, and the intercalarian bone not perpendicular but inclined, and the alveolar process projecting. The middle pieces of bone, covered by a smal portion of skin, was removed three months ago; the skin retained, its edge pared, and attached by suture to one side. This healed well, and converted the external tissues from a double to a single fissure. Some days ago, the remaining portion of the operation was performed; the lips were first separated from the tissues beneath, the semi-circular cuts made, and five, thin, soft iron sutures introduced in the usual manner; the large quilled suture was then used, made of a narrow silk ribbon, doubled, and passed through the lip as described, the quills being attached to either end. Its application was attended with very satisfactory results; the parts could be more easily drawn together, and the central iron sutures more accurately adjusted; the margin of the flaps forming one vertical line; the lips could not move outward owing to the pressure of the quills; tension, and consequently irritation, was removed from the point of expected union, and the parts being more closely united, union by the first intention more rapidly takes place. He had originally thought of using a wire suture for the quills, but apprehending that it night cut throught the lip in a transverse direc-

tion, he had substituted the silk ribbon, so as to relieve the part, in a measure, from the sharp pressure of the wire. He had at first intended to permit the quilled suture to remain *in situ* for three or four days, expecting that pressure exercised during this time would sufficiently paralyze the muscles so as to prevent their action for two or three days longer, but finding so little irritation produced by it, he did not remove it until the sixth day. After its removal, he found on the right side a minute fissure, three or four lines in length, which will heal and leave no mark, and on the left no noticeable cut was discovered. On the eighth day, the central wire sutures were removed, the union of the lip being *perfect*. This case was a very unfavourable one for any operation, yet he could truly say the operation was a perfect success, all his expectations being more than realized. His presumption as to the cause of failure in other cases was fully corroborated by the favourable termination of this case. All obstacles to quick union by the first intention are overcome, and although this is the first case operated on by the quilled suture, he believed, from the progress and result, as reported, that all cases of harelip, however great may be the deformity, can be treated successfully by the addition of this suture.

A week after the above report was made, the child was exhibited for the inspection of the Society. The result was a fine one, the union being firm and complete; the fissures in the bone had decreased already in width; and Dr. Hammer expressed the opinion that, by the time the child reached mature age, the deformity would not be greater than would have resulted had it been a case of simple harelip.—*Saint Louis Medical & Surgical Journal, May and June.*

A CASE OF SACCULATED ANEURISM: LIGATION OF THE COMMON CAROTID—DEATH FROM HÆMORRHAGE.

Under the care of Dr. Scriven of Long Branch, N. J.

A young man aged 27, returned from the army on the 14th of March, 1865, and immediately sickened with congestive fever. On the 22nd, eight days after, tumours appeared under each ear, and on the 28th were opened, and discharged pus freely. Simultaneously with these, abscesses appeared in other parts of the body, which were opened, discharged pus, and gave no further trouble. But on the 5th of April, the tumour under left ear began to increase, harden, and stopped discharging. April 8th pulsation was discovered in the tumour, which increased and became very distinct on the 10th. On the 13th, Dr. Scriven became fully satisfied as to the nature of the tumour. Thursday evening, I called with Dr. Scriven

to see the case. The tumour at that time was about the size of a hen's egg, situated over and posterior to the angle of the jaw. Dr. Scriven, upon examination, finding the skin to be very tense, was fearful of its sloughing, and thus bleeding the patient to death. Two surgeons were called to consider the propriety of performing the operation of ligating the common carotid artery. They opposed it for the time, but decided to meet on the following morning with others for reconsideration. Friday morning, 14th, at eleven o'clock, the case was consulted on, but fearing the patient was too much prostrated to undergo the operation, decided not to perform it. I remained with him during the night. At half-past twelve a.m. the tumour burst in two places, but I succeeded in arresting much flow of blood ; the loss being about one pint. This being the first blood he had lost, the effect on him was but slight. Saturday, 15th, Dr. Scriven called, and upon examination, decided, with the consent of the patient, to perform the operation. He willingly consented, and between one and two p.m. Dr. Scriven performed the operation with good success. The loss of blood did not exceed half a tea-cup full. The patient was in good spirits, and doing finely. Saturday night, ten hours after the operation was performed, the tumour (fed by a recurrent circulation from the communicating arteries in the skull) began to bleed furiously, and we did not succeed in arresting it until it had bled somewhere about one quart.

This, taking into consideration his weakness and the previous loss of blood, prostrated him, and he hung between life and death. But by a free of use stimultants and his excellent appetite, he gained strength rapidly. That night rested well. Monday about the same. Tuesday, Dr. Scriven laid open the tumour. Within, the tumour was filled with coagulum ; and the sac being removed, the artery could be seen very distinctly. The patient remained about the same until Friday night, 21st, when, at one a.m., the external carotid leading to the tumour began to bleed freely, and there being no one present but the family, the hæmorrhage was not stopped until it had bled about one quart. The sac was so near the maxillary branch of the external carotid, that the coagulum formed being so short, the pressure of blood passing to this maxillary branch was so great as to expel it. That hæmorrhage in his emaciated condition was too great ; and he never recovered from the effect of the loss. It was with the utmost difficulty that life could be kept in him at the time, but his determination to live, and good courage, brought him through. Sunday, 23rd, he was very feeble, and his appetite, which until Friday had been excellent, and had been the principal means of keeping him alive, had failed to a certain degree. Sunday night, halfpast eight p.m., the

artery began to bleed, but it was arrested before it had discharged more than four ounces. But he had already lost so much by hæmorrhage that but a small additional loss of blood endangered his life ; he became very much agitated, and for two hours he hung upon the brink of death.

During that night, Monday, and Monday night, he was very feeble, and at times fainty. His pulse was very weak, and respiration short and hurried. Tuesday morning, 25th, he had a fainting spell about ten a.m. and it lasted until eleven a.m. From eleven a.m. to four p.m. he laid in a state of coma, and died merely from exhaustion. This was a case of true aneurism, the internal coat of the artery being ruptured by the action of inflammation resulting from the abscess.—*Philadelphia Medical Reporter.*

RUPTURE OF THE AORTA FROM INJURY.

A man on lifting a heavy cask was struck by the latter, in its fall, on the upper part of the chest, and was instantly killed. On examination of the body it was found that the upper piece of the sternum had been broken through, and the blood was effused beneath. The heart was uninjured, as also was the aorta on its front aspect. Posteriorly, however, a transverse laceration was found, which half encircled the vessel, commencing at the under part of the arch, and proceeding upwards to the origin of the left carotid artery. Dr. Wilks said it might be a question whether the laceration was caused by a sudden contraction of the aorta, or whether it was caused by a simple bursting of the vessel from external pressure. He believed it arose from the last-mentioned cause; otherwise it might be difficult to show why a sudden and irregular contraction of the aorta should in one case cause a rupture of one of the valves, and in another a laceration of the aorta itself. Dr. Wilks said the case illustrated a fact which was constantly coming under notice—the injury of a deep seated part from falls and superficial blows. In the case of the heart, a difficulty had often arisen in the mind of the medical man, who could not explain how the organ could be ruptured on its posterior surface without any broken bone being present to account for the accident.

The President said that Dr. Quain had published three cases of rupture of the aortic valves, and he (the President) two cases. He had also collected others, in one of which only had the rupture been due to direct violence. He did not know any case in which the curtain of the valves had been torn down in the middle as in Dr. Wilks' specimen. Such cases were not common, and it was not easy to say how much disease and how much injury had to do with the rupture. Dr. Peacock related an instance in which rupture of the aorta occurred in a patient

who had been crushed by the weight of a heavy casting mould. The rupture was, he thought, due, not to direct injury, but to the sudden effort. The rupture was between the position of the ductis arteriosus and the origin of the left subclavian artery, ordinarily the narrowest part of the thoracic aorta.

Mr. Spencer Wells thought the medico-legal bearings of such cases ought to be considered. He related a case in point which occurred some years ago in his practice as a naval medical officer. One man struck another. The man struck ran to a place where water was to be had, and quickly died. An autopsy was made, and the cause of death was found to be a rupture of an aneurism of the aorta into the pericardium. The question as to whether the aggressor was to be punished for manslaughter, or simply for striking, depended entirely on the medical evidence. It was decided that there having been pre-existing disease, the punishment should be for a blow only. Probably in civil law the culprit would have been found guilty of manslaughter.

Dr. Sanderson said he thought it more likely that the rupture of the aorta occurred during diastole than during systole.—*Transactions of the London Pathological Society.*

EXTRACT FROM A CLINICAL LECTURE ON THE COMBINATION OF DISTAL WITH PROXIMAL COMPRESSION IN CERTAIN CASES OF ANEURISM.

By J. M. O'Farral, F.R.C.S., L.K.Q.C.P.I., M.R.I.A., Chief Surgeon to St. Vincent's Hospital.

I have long since been of opinion that compression of an artery on the distal side of an aneurismal sac should precede or accompany that on the cardiac side of the aneurism. I have often observed arrest of pulsation easily accomplished, attended at the same time with a flaccid state of the sac; but I have also remarked in such cases that the moment the pressure ceased the sac filled and throbbed as before. The formation of the coagulum is thus desirable as the first step to consolidation. A half empty sac is the ready recipient for the slightest thready current that can follow the cessation of the compressing force on the cardiac side. It therefore, appeared to me advisable to interrupt the current only when the sac was full of blood. These considerations, together with the knowledge of the fact that ligature of the artery on the distal side has sometimes cured an aneurism when the upper or cardiac portion of the vessel could not be reached, made me resolve to try this expedient whenever a a fair amount of pressure was not followed by success. From what

I have observed, I am inclined to think that cessation of pulse in a sac which suddenly diminishes in size and becomes flaccid is less likely to be followed by a permanent cure, whatever time may have been occupied in the compression; and that a sac which retains its volume, and is, moreover, full of coagulum, is less likely to be refilled, however short the duration of the compressing force.

When the supply is completely cut off by ligature of the trunk, I believe that the danger of relapse from refilling of the sac by collateral sources is more likely to occur when the sac collapses and becomes flaccid at the moment of deligation than when its dimensions are unchanged. This firmness of the parietes of the sac is always considered favourable to the success of the operation, as implying the presence of fibrinous deposits whether we attribute them to stasis of the blood or to inflammatory exudation, as suggested by the researches of that distinguished surgeon, the late Dr. Abraham Colles. I have no doubt, however, that whether a sac be filled by fibrinous deposits of some duration, or by coagulum recently formed, that a full sac is very influential in preventing the ingress of blood from a compressed artery above, or collateral branches from below; the compression below the sac need not, in some cases last more than a few minutes before the current above is stopped. If, on making the pressure above and arresting the pulsation the sac remains full, the object is attained, and time is merely required to allow the blood then liquid to coagulate in the sac. In other cases, it may be prudent to continue both compressions for a longer time. Three cases have already been treated on this plan with success. The first was published by me in Dublin Quarterly Journal for November, 1856.—*Dublin Medical Press.*

ON HYDROCELE OF THE HERNIAL SAC.

By M. Velpeau.

A tailor, aged twenty-four, entered one of M. Velpeau's wards, with a tumour on the left side of the scrotum, as large as the double fist, and situated below the external ring; it was soft, indolent, tense, fluctuating and irreducible. There was neither impulse on coughing nor transparency. It was prolonged by a pedicle, the size of the thumb, into the inguinal canal. The skin over the tumour was normal in appearance, and the testis was distinctly felt at the bottom of the scrotum. The man had worn a truss for several years for a hernia, which had never been completely reduced, a small swelling always remaining. Ten days prior to admission the truss had been broken, the tumour somewhat rapidly increasing in size, but without pain or inflammation. A portion of the

hernia only could be returned, and the man came to the hospital. M. Velpeau, much influenced by the free fluctuation present, came to the conclusion that this was an example of an old intestinal-omental hernia, in which the gut had been returned, leaving only omentum—an effusion of fluid having also taken place into the sac. Six days after admission the sac was punctured, and a reddish but perfectly limpid fluid having been discharged, the presence of omentum was ascertained. An iodine injection was then thrown in, and next day a pretty smart attack of inflammation occurred, accompanied by febrile action. This soon abated, and the patient went on very well, so that when he was discharged, three weeks after his admission, one side of the scrotum was scarcely larger than the other.

It was M. Velpeau who first conceived the idea of treating this form of hydrocele in the same way as hydrocele of the tunica vaginalis; of course, in such a case inflammatory action is more to be dreaded, owing to the intercommunication with the peritoneum; but M. Velpeau having found that iodine injections never give rise to purulent inflammation in closed cavities, determined to employ them in congenital hydrocele, taking care to compress the inguinal canal against the pubis. In the numerous cases of this kind in which he has employed these injections, he has never met with any accident, and he therefore naturally felt no hesitation in extending the practice to hydrocele of the hernial sac, in which the canal being plugged with omentum, the penetration of the iodine into the peritoneal cavity could scarcely occur. By this operation, also, conjoined with careful adjustment of a truss, the radical cure of the hernia may in some cases be effected.—*Brit. and For. Med.-Chir. Rev.*

ON THE TREATMENT AND CURE OF ABDOMINAL ANEURISM.

By Wm. Murray, M.D., M.R.C.P.Lond. Physician to the Dispensary, and Lecturer on Physiology in the College of Medicine, Newcastle-on-Tyne

When M. W. was brought to London last May and shown to the Medico-Chirurgical Society, several gentlemen desired me to give an account of the case as soon as all risk of a return of the disease had passed away. To those interested in the subject I need not give much of the past history of this case. That the man had suffered for some months from aneurism of the abdominal aorta was acknowledged by all who examined him privately, and by the meeting of the Northumberland and Durham Medical Society as expressed in very decided terms by the President at the meeting. That the aneurism was consolidated and that the aorta and its terminal branches had ceased to beat was acknowledged by all

who examined the patient at the meeting of the Medico Chirurgical Society. Since June the patient has enjoyed a very considerable share of health. He has gained flesh and strength so rapidly, indeed, that he has been regularly engaged as a fitter in Messrs Hawthorn's engine works, has worked generally twelve and sometimes fourteen hours a day, and has thereby been enabled to maintain his wife and his parents. His symptoms have been occasional loss of power in the legs and severe pain in the ham; and during the winter he has felt the cold very keenly, especially in his legs and feet. Once or twice he has had a severe pain in the back, which had readily yielded to treatment. He has been subject to severe cold and headache, and his digestive organs have been sluggish with a tendency to constipation. Once, and once only (in October), he has had an epileptic fit, which was severe, and left him very prostrate. Notwithstanding these elements, sometimes three or four weeks elapse during which he feels quite well.

The Aorta.—To this day I have not been able to discover the slightest pulsation in the aorta *below the tumour*, so that its occlusion may be considered an established fact. The femorals also are pulseless, and as far as I can make out there is no *large vessel* below the seat of the aneurism by which blood is circulating. The tumour has completely disappeared, and a dense resistance is all that can be felt over the seat of the aneurism; *above* this the aorta beats with a sharp forcible stroke.

So far, I think, it is clear, 1st, that this case of aneurism of the abdominal aorta has been cured by pressure; 2nd, that the aorta has been occluded without either temporary or permanent serious disorder; 3rd, that there must be a collateral system of vessels so complete as to carry on the circulation when the aorta is blocked. Since this case was brought forward others have been encouraged to adopt the treatment here employed. I had the pleasure of assisting Dr. Heath, of this town, in the treatment of a case of iliac aneurism by compressing the aorta, and the treatment has proved most successful. Since then, Dr. Mapother of Dublin, encouraged by the Newcastle cases, has achieved a brilliant success in a case of iliac aneurism treated in St. Vincent's Hospital. Each of these gentlemen will doubtless bring the particulars of his case fully before the profession. Meantime, I add their experience to mine in making the following remarks:—

First Proposition.—The introduction of chloroform in the treatment by compression in no way interferes with the coagulation of blood or the deposition of fibrin; by *it* this treatment is applicable to arteries in the most sensitive and delicate situations, and it may be used for several hours continuously without danger to the patient. Its use will add greatly to

the ease with which the treatment can be carried out, and therefore to its efficacy. It ought to be used in treating aneurism in *other* parts, as well as those in the abdomen.

Second Proposition.—From these three cases it is evident that consolidation of fibrin alone does not cure the aneurism; *this is due mainly to coagulation of blood.* This is proved, 1st. by the clear indications in Dr. Heath's case and my own that the tumour ceases to beat and becomes solid within the space of *one hour* (see report of case) when once the conditions of coagulation are established; 2nd, by the rapid disappearance of the tumour after it becomes solid. In the Newcastle cases the dimunition in the size of tumours was a surprise to us all. The rapid formation and removal of the clot argues powerfully *for* its sanguineous and *against* its fibrinous nature.

Third Proposition.—It is now established that the cure of an aneurism by pressure need not be a tedious process lasting many hours and extending over many days. The question may be stated thus:—Are we to have cure by coagulation of blood in *five hours* by completely arresting the current through the aneurism, or cure by lamination of fibrin in *twenty-five days* by frequently and imperfectly arresting the circulation? The answer of of course depends upon the safety and efficacy of the *former* process. That it is as *safe* as the other I have no doubt, for in none of these cases has suppuration of the sac after treatment, or injury to the patient while being compressed, resulted. All that we can say with regard to the permanent efficacy of the treatment is, *that it has not failed in any one instance.*

Fourth Proposition—The experience derived from the treatment of the two cases of iliac confirms an opinion I had formed, that in all cases of aneurism of the larger arteries springing from the abdominal aorta it is best and perfectly safe to press on the aorta itself. (To command the channel of the aorta and to arrest its pulsation seems to me after numerous trials to be a most feasible operation.)

I need scarcely apologise for introducing this somewhat mechanical remedy, for I consider it acts according to known physiological laws, and operating through them it is a therapeutic agent. I will not here enter on the question as to whether a stationary mass or a feeble current of blood is most likely to coagulate; on its settlement hangs the adoption of distal as well as proximal pressure. I would say, however, that I have a case where an aneurism seems to be developing very high in the epigastric region: and in this case when once the existing of the aneurism is certain, I shall apply a Signorini's tourniquet to the artery below the tumour, and by this *distal* pressure I hope to obtain a cure.

P.S.—I would compare the process of *coagulation* in an aneurism to those instances of crystallization which occur when the slightest disturbance of the conditions of solution determines the immediate solidification of dissolved matter, where a sudden movement, a rough surface, &c., are enough to induce the formation of crystals—*vice versa*, the completely arrested current seems to assume the solid form *at once and decidedly* as soon as the conditions of the solution of fibrin are disturbed: we are still uncertain as to the exact nature of those conditions, but we can disturb them in an aneurism by the compression treatment.—*Medical Times.*

LIGATION OF THE THE SUBCLAVIAN.

By Charles F. Bullen, M.D., formerly Apothecary to the Montreal General Hospital, Acting Assistant Surgeon U. S. Army.

(*Extracted from Dr. A. R. Becker's Fiske Fund Prize Essay on Gun-shot wounds.*)

Adam Grignun, private, Co. D. 7th Conn. Vols., aged 21, was wounded before Petersburg June 9th, 1864, by a rifle-ball, which fractured the acromion end of the right clavicle, passed beneath the scapula and out below its lower border. On admision to the Hospital, three days after the injury, some fragments of bone were removed. The wound looked healthy, and continued discharging laudable pus and granulating till June 28th, 11 A.M., when secondary hæmorrhage occurred. He then lost about six ounces of blood before it was checked by pressure.

June 29, 10, A.M.—Hæmorrhage again occurred, more severely than before, losing from fourteen to sixteen ounces of blood. The cavity of the wound was by this time much enlarged. The hæmorrhage was again apparently checked by plugging the wound with lint saturated with perchloride of iron. But in two hours the whole of the tissues between the wound and the neck where engorged with blood, the swelling rapidly increasing, thus showing that he was still bleeding. After consultation, it was decided to stimulate freely and give narcotics to relieve pain, and let him remain till morning.

June 30th, 11, A.M., being in about the same condition—the tongue dry and glazed, pulse 120 and very weak, and with the engorgement gradually increasing—the subclavian was ligated successfully in the first part of its course. Coagula were then removed from the cavity of the wound, and it was syringed out with ice-water, no bleeding being apparent. Immediately after the operation he rallied; the tongue became moist; pulse at left wrist 110, at right wrist *none*. The temperature of both arms was the same, and continued so throughout.

July 1st, 10, A.M.—Left pulse 110, right barely perceptible. Patient

in good spirits ; takes nourishment freely, but complains of pain in swallowing. 10. P.M.—Left pulse 112, right same as in the morning. Ordered R. Liq. amon. acetat., ʒ i. ; tinct. aconit. M v. ; to be taken every four hours.

2d.—Left pulse 110, right increasing a little in strength ; no pain in swallowing, and improving.

3d.—Left pulse 108, right same as yesterday.

4th—Left pulse 100, right same as yesterday ; takes nourishment freely, and both wounds looking healthy and well.

5th—Left pulse 96, right same as yesterday.

6th—Left pulse 90, right same as yesterday. Omit medicine.

7th—Left pulse 90, right same as yesterday. Complains of pain in the region of the heart, but no abnormal sounds heard.

8th—Left pulse 120, right same as before ; tongue dry and glazed. At 9, P.M., he had a rigor.

9th, 7, A.M.—A slight hæmorrhage from the point where the artery was ligated. The wound was plugged and pressure employed. At 10, A.M., the hæmorrhage recurred more severely than before. From this time until evening there were repeated hæmorrhages ; the patient gradually sank, and died at 8, P.M., remaining sensible to the last.

Autopsy.—Both the suprascapular and posterior scapular arteries were found to be in a sloughing condition, which was apparently the cause of the last hæmorrhages. The subclavian was ligated about half an inch from its origin. The ligature had come away, and the coats of the artery were ulcerated through. On the cardiac side a slight clot had formed, but on the distal side the clot was larger, firmer, and more perfectly organized.

This case is exceedingly interesting, both on account of the infrequency of the operation and because the man lived so long after its performance—nine days and eight hours ; and at one time it really seemed as if he would recover.

PERFORATING ULCER OF THE STOMACH.

Dr. Hayden exhibited, before the Pathological Society of Dublin, a specimen of perforating ulcer of the stomach. The subject was a man, æt. 34, a patient in the Mater Misericordiæ Hospital. About two years ago he for the first time complained of uneasiness in the stomach, acid eructations, and uneasiness after taking food. These sensations occurred about two hours after meals, and generally ended in vomiting, which completely relieved him of the sensations. He went on in this state for about two years, during which time, however, the uneasiness

became converted into absolute pain. He was continually attacked with vomiting, and on three or four occasions threw up a quantity of dark grumous matter, evidently consisting of altered blood. He likewise passed a quantity of this matter from the bowels. He was admitted into the hospital on the 13th February. His appearance was then pale and anæmic; his pulse was quick, but in other respects normal. His tongue was clean. There was pain about two hours after taking food, whether liquid or solid, and acid eructations. The bowels were constipated and distended with flatus. There was no tenderness over the region of the stomach, and no evidence of disease of the organ could be detected by external examination. The pain after food extended to the lower dorsal spine; it was not of a very aggravated character, being very little more than uneasiness. On the morning subsequent to his admission, I found that during the night he had vomited a quantity of dark grumous matter, it was a good example of what is termed "coffee-grounds vomit;" it was manifestly altered blood, perhaps three or four ounces. I accordingly made up my mind that I had to deal with one of two things—either some form of latent aneurism finding an entrance into the stomach, or (still more probable) gastric ulcer. I treated the man on this assumption. On the following day, in my absence, he was attacked while at dinner with a severe excruciating pain in the abdomen. At four p. m., Dr. Cruise, who happened to be in the hospital at the time, saw him and prescribed for him, but he obtained very little relief. He took a dose or two of morphia, and continued to suffer till nine p.m., when he died exhausted. I should add, that though exceedingly anæmic, he was not at all wasted, and had a very good coating of flesh.

Post-mortem Examination.—On opening the abdomen we found a quantity of dark coffee-grounds matter diffused through the abdominal cavity. There was not a trace of inflammatory action—no peritonitis. On raising the liver from the surface of the stomach we found a good example of perforating ulcer, the aperture being exceedingly well defined, larger than a large goose quill, and perfectly circular. The stomach was much thickened in the neighbourhood of the opening. The edges of the aperture and portions of the surface in the vicinity were discoloured, manifestly with bile, the gall bladder lying immediately over the opening. In the neighbourhood of the perforation we found a quantity of exuded lymph in flakes on the surface of the stomach. On opening the stomach we found an ulcer in the immediate neighbourhood of the pylorus on the interior wall. On the inner surface this ulcer was about one inch in diameter. Immediately behind this, and upon the posterior wall of the stomach, we found a second ulcer of much greater magnitude, being $2\frac{1}{2}$

inches in its long and about 1½ inches in its short diameter. The floor of this latter ulcer was formed by the adherent pancreas which was closely attached to the posterior wall of the stomach. Another ulcer, smaller than either of the former, was in the immediate neighbourhood of the cardiac opening of the stomach. This ulcer had not penetrated the walls of the stomach; it was about the size of a large pea, and its edges well defined. There was no evidence of inflammatory action around it; it was just as if the mucous membrane had been punched out. In front of the ulcer which passed through the walls of the stomach we, on closer examination, detected an old cicatrised ulcer, which penetrated only through the mucous membrane.

This case possesses interest in one or two points.—1st, as affording a satisfactory explanation of the absence of epigastric tenderness on pressure. The right lobe of the liver lay over the perforation, and hence there was no tenderness evinced on pressure, as the liver lay between the hand of the examiner and the diseased portion of the stomach. 2nd. The immediate cause of death was not exactly perforation, but the detachment of a very frail adhesion between the fundus of the gall bladder and the peritoneal surface of the stomach. On the surface of the gall bladder there was a layer of lymph corresponding to the portion of the stomach it lay in contact with. It is probable the lymph, which served as a bond of cohesion between the gall bladder and the stomach, was of a frail character, owing to it being mixed with bile by transudation from the gall bladder. The presence of this lymph in the immediate neighbourhood of the opening, and there only, further tends to confirm this view. 3rd. The case is of interest in respect to the condition of the patient, who, as already stated, was not at all emaciated, although the disease had lasted for two years. Of this we have an explanation in the fact that though the pyloric extremity was thus diseased, the remaining parts of the organ were in a tolerably healthy state, and in this way the man, who retained the food for some time, was capable of absorbing and appropriating various aliments at all periods since the commencement of his illness.—*Medical Press.*

Canada Medical Journal.

MONTREAL, JULY, 1865.

A LUNATIC ASYLUM.

We have not yet received a copy of the report of the Board of Inspectors of Asylums, Prisons, &c.; but, from what we have seen in the daily press, we are convinced that this report demonstrates most fully the necessity which exists of constructing a proper building in this section of the Province, for the care and treatment of those affected with mental diseases.

It appears to us, the Government are bound either to entertain the report and act upon it with promptitude, or they must, by continued neglect of the reiterated necessity, treat the report of their commissioners with silent contempt,—a course of action which, in any other country, would bring about the resignation of the entire body of those constituting the board.

The thrice told tale of over-crowding, which has been dinned into the governmental ears, by doctors, journalists, and the entire press, comes at last from those appointed by the executive to visit and report on the sanitary and other conditions of these institutions. We say, at last, for it does seem that the necessity has become too glaring to be over-looked, even by well-paid inspectors. We speak thus strongly because it will be found, on reference to the report for the year 1863, a controversy started between one of the Board of Inspectors and Dr. Workman of the Toronto Asylum on this very subject. The doctor states that his asylum is already too full, but, in spite of his remonstrance, we find Mr. Inspector Taché recommending the addition of fifty extra beds in the asylum, which, according to Dr. Workman, is, or was at the date of his letter, July 17, 1863, "full enough, and that the beds cannot be increased without risk to the health and lives of the present inmates." How the case stands at the present date in Toronto, we are unable to say, not having seen the report. But, in reference to the Beauport Asylum, it does appear that they are in a sad state for want of space, with the expectation, or rather the daily necessity, of extra room. But to go to figures. We

copy from the Toronto *Leader*. In May, 1862, the number of patients in the Beauport asylum was 418; in May, 1863, it was 444; in May, 1864, the number had increased to 534, and, in September of last year, it had reached 556. Let it be remembered that the building is considered full with 400 inmates. It is true that new wings have been added to the building; but in spite of increased accommodation the crowding was deemed by one of the commissioners, Mr. Hamilton, to be "prejudicial to health, both of mind and body, from the circumstance of so large a number being huddled together."

In the name of our common humanity, we would ask how long is this state of things to be allowed to contine. If the Government are unwilling to assume the responsibility, let them so state, and give to private individuals the power of erecting an asylum to be under Government inspection. We have good reason to know that offers have been made to the Government by private individuals to build an asylum and provide the necessary accommodation for this afflicted class of persons. The bare idea of endeavouring to adapt a rejected private residence, as was proposed, a short time since, in the house of the late Mr. Harwood, or the other schemes for acquiring college buildings which have not been found to answer the purpose for which they were intended, or even making use of the barracks at St. John's is absurd in the very last degree; it is a line of conduct which lays the members of our executive open to the suspicion of a question of their own sanity, and we doubt very much whether they do not themselves deserve to have issued a commission *de lunatico inquirendo* for the purpose of deliberating on their own state of mental calibre.

If reference be made to the imperial paper on "Colonial Hospitals and Lunatic Asylums," it will be found that in temperate climates 1,000 cubic feet of breathing space are necessary for each inmate of associated wards, and that in single rooms not less than 1,500 cubic feet are necessary. It appears that not over 300 cubic feet of breathing space are allotted to the inmates of the Beauport Asylum—a state of things which precludes all hope of beneficial results from treatment; in fact, it is little superior to the black hole at Calcutta, and we have little hesitation in believing it is very little better, and accompanied by almost an equal amount of death, though not half as merciful; for, in the one instance, the death was speedy and sure, in this it becomes a lingering but equally certain result.

We write thus urgently. It is a subject which has engrossed our attention for years; and, we would ask, is there not occasion for earnest and concentrated action? The fact is apparent to every one who chooses

to observe, for in our own streets may be daily seen many unfortunate wretches who should be taken care of in an asylum. But it is not done. And why? Because there is no asylum. With a population of 120,000 in our city, and a large populous surrounding county, there is no asylum. There is nothing but the cells of our common gaol, where these unfortunates would be far worse off than by allowing them to roam at large, with the possible alternative of their committing some desperate act for which the law cannot hold them accountable.

Since the above was in print, the tragedy enacted at St. Damase has occurred. We take the account from the daily papers. This lamentable affair proves more fully than words can express the culpable negligence of the Government in not providing means for the care of this afflicted class.

HORRIBLE MURDER AT ST. DAMASE.—On Friday last a dreadful tragedy was enacted at St. Damase, by Jean Baptiste Drolet, the unfortunate victim being his own mother. It appears that the murderer, about two o'clock in the afternoon, asked his mother for some milk. She sent him to where it was kept in an outhouse, but fearing that he might spill some of the cans, followed him. She had no sooner reached the place than her son seized an axe, and struck her a fearful blow on the head. The poor woman died an hour afterwards. The son was immediately arrested; an inquest was held on the body; and a verdict rendered that the deceased had come to her death by a blow inflicted by her son Jean Baptiste Drolet, and accusing him of wilful murder. It appears that the son is insane, and must have committed the act in one of his wilder moments. He has a wife and five children living. This sad affair has cast a gloom over the village St. Damase, where the deceased and her family were highly respected.

In a private letter received by Dr. F. W. Campbell, from Dr. William Frazer, lecturer on materia medica in the Carmichael School of Medicine, Dublin, and author of "Elements of Materia Medica, &c.," occurs the following passage, alluding to the several articles published in this journal, on the unfortunate case of accidental poisoning at Quebec some few months ago: "You had a curious discussion about a case of poisoning; your correspondents were a little bitter, but, in spite of all the evidence, I feel disposed to think that aconite was the tincture used." Dr. Frazer also remarks: "Much excitement has been caused by the reports of the Russian epidemic. At the College of Physicians, a few evenings since, Professor Houghton read a letter from one of the leading St. Petersburgh

professors, and, from it, it would seem that the epidemic is simply severe typhus, and relapsing fever, such as we had in Ireland in 1848, but that it was declining. He scouts the idea of a plague.

MEDICAL NEWS.

On the 10th of May Mr. Syme, for the second time, performed the formidable operation of excision of the tongue. The patient was a female about 56 years of age, who had been affected with malignant disease of the tongue for about two years, the affection implicating almost the whole organ, extending to within a short distance of the hyoid bone. Having made an incision in the median line from the lip downwards, Mr. Syme sawed through the lower jaw. The two portions being held apart, he readily and rapidly dissected out the whole tongue. Only two ligatures were required; and but little blood was lost. The operation lasted twenty minutes. The patient upon whom Mr. Syme operated some six months ago, is still well and there has not been any return of the disease. — Sir David Davies, M.D., died on the 10th of May. He was the domestic physician of His late Majesty King William IV and Queen Adelaide. — Dr. Clark, of Rockford, Illinois, recommends the internal administration of sulphur in large doses, frequently repeated, for the cure of indolent ulcers of long standing. One case took thirty grains five times a day, with most decided benefit. — Typhoid fever is the cause of the greatest number of deaths in the French army, being, for 1862, 185 per 10,000 of effective soldiers.

Mr. Spencer Wells objects to the operation of incision of the mouth and neck of the womb, as performed by Dr. Marion Sims. In his opinion, the use of the speculum is neither necessary nor desirable in the performance of the operation. "The operation can be much better done with a proper instrument in a second or two by the touch alone, than it can by a complex process of speculum, assistant, hook, scissors, knife, and plugs, as advised by Dr. Sims." Further, he says that there is no necessity to do more than cut through the mucous membrane and the innermost layer of muscular fibres. Mr. Wells holds it "to be not only unnecessary, but dangerous and injurious, to cut into the thick middle layer of muscular fibres." Mr. Wells says he has seen two fatal cases of periuterine abscess after free incision in the practice of others. He is confident that very "free incisions are as unnecessary as they are dangerous."—*Brit. Med. Jour.*

CANADA

MEDICAL JOURNAL.

ORIGINAL COMMUNICATIONS.

Case of Aneurism of ascending portion of Arch of Aorta. By Joseph M. Drake, M.D., House-surgeon, Montreal General Hospital; Curator of the Museum of McGill College.

Paul St. Jean, aged 26, was admitted into the Montreal General Hospital on the 12th July, 1864, under Dr Reddy, complaining of a tumour on the front of the chest. He is of medium height, somewhat emaciated, and of a sallow anemic complexion. He states that about eight months since, while lifting he felt something "crack" in his chest. shortly after which he was conscious of a "lump" inside his chest: he did not feel any pulsation at the time nor since, nor was there any very noticeable swelling on the surface. He did not suffer from the slightest inconvenience in swallowing, neither had he difficulty of breathing at any time. He had occasional pain in the part of a pricking, burning, aching character, but not very severe. In this state he remained till about Christmas, last, when he observed the swelling externally to rapidly increase in size—within the past six weeks it has enlarged with yet greater rapidity, and he suffers at times excruciating pain—he has slight cough, cannot continue in a reclining posture—great orthopnœa,—and cannot make the least exertion, but has still no difficulty connected with deglutition or respiration. His pulse is 108, weak but regular—tongue moist, slightly furred—bowels constipated—appetite gone. He complains much of want of rest, being obliged to remain in a sitting posture continually. The pupils are of equal size, and equally affected by light. There is nothing more in his family or personal history which throws any light on his case.

On examination an oblong tumour, soft, smooth and uniform, about six inches long by four and a half in width, the long axis directed trans-

versely across the sternal region, the shorter axis extending between the third and sixth ribs. It extends nearly an equal distance right and left of the mid-sternum. The integument covering it is healthy in appearance, though somewhat reddened, which he attributes to the application of poultices he used before his admission. The intercostal spaces between the second, third, fourth, fifth, and sixth ribs appear considerably widened at the margin of the tumour; neither ribs nor sternum can be felt over the tumour. The ensiform cartilage can be felt about two inches below the lower margin of the tumour. The apex of the heart is displaced about two inches to the left of its normal situation. Pulsation synchronous with the heart's action is very evident over the whole surface of the tumour. The impulse, however, is neither forcible nor jerking, but conveys the impression that it is communicated through a fluid or semi-fluid substance. There is no thrill, and on applying the stethoscope not the slightest trace of "bruit" can be detected in it. The heart sounds at the apex are perfectly normal, a slight bruit is heard with the first sound at the third left costal cartilage and also at the right second costal cartilage. At the back about the fifth or sixth dorsal vertebra a systolic bruit de souffle (quite single) is very distinctly heard.

The lungs appear healthy. There is no history of pleurisy. The tumour is very tender, and its contents appear to be fluid or semi-fluid to the touch.

14*th July*.—Complains of severe pain in left side, which was relieved by the application of sinapisms. Pulse 115. He continues the same in other respects, and is suffering so much that it is almost impossible to make any further examination. From this date his strength rapidly failed, and he died on the afternoon of the 22rd July. The immediate cause of death appeared to be syncope.

Sectio cadaveris.—On opening the pericardium the heart was found to be slightly adherent over its whole surface to the pericardium by a thin layer of *recent* lymph. The adhesions were very readily separated by the finger. All the valves were perfectly healthy and capable of performing their functions. The cavities were nearly empty. The right auricle and the ascending part of the aorta could not be separated from a large tumour which existed in the situation of the anterior mediastinum. The sac of the pericardium in this situation was therefore of course obliterated. On slitting up the aorta two large dilatations were observed in the situation of two of the sinuses of Valsalva, one of which had burst in to the anterior mediastinum by an opening about the size of a half crown. The edges of the opening were puckered but perfectly smooth. The other dilatation would have held a large walnut; its walls were thin and formed

of the whole of the coats of the artery; no fibrine was deposited within it. The sac of the tumour was now opened, and within was found a large and recent clot, somewhat laminated in its more external part, but all containing abundantly the colouring matter of the blood and of a soft consistence. It had the colour of black currant jelly. The anterior parietes of the sac were formed of the ribs which were extensively eroded, also part of the sternum and the external fascia and integuments. The remaining parts of the sac appeared to be formed wholly of the mediastinal pleuræ except at the point where the opening from the aorta existed, at which point the pericardium contributed to its formation. On carefully removing the soft dark clot, and washing out the sac with water, the ruptured sac, corresponding with the dilatation of the aorta, was seen much thickened by concentric deposition of fibrine of a light yellow colour.

It thus appeared that a true aneurismal dilatation of the aorta had existed in the first part of its course, that the sac of the pericardium had been obliterated by adhesive inflammation, and the ribs and sternum eroded, that the aneurismal sac had then burst into the anterior mediastium, which limited the flow of blood, and prevented it from proving instantly fatal. It was conjectured from the man's account of himself that the rupture of the true aneurismal sac dated from the period when he first observed it growing very rapidly larger, that is about six weeks.

The case will perhaps be thought interesting, as it illustrates the fact that we may have an immense aneurismal sac connected with the aorta even close to the heart, and yet, no thrill, no murmur, no signs of pressure even the pulsation not being at all so well marked as one would expect from its size and situation. A preparation of the parts is in the McGill College anatomical museum.

Fibrinous Polypi in the Right Heart, accompanied with Tricuspid Regurgitation in a case of Double Pneumonia. Death, autopsy. By D. McGillivray, M.D., attending physician to the County of Carleton General Protestant Hospital, Ottawa.

Benjamin Isbester, aged 37, a native of Orkney, tall, well-proportioned, large muscular system, wasted, but cannot be said to be particularly thin. Complexion fair, features indicating Scandinavian origin, and by trade a tailor. During a period of ten months previous to his admission into the hospital, he experienced pain in the region of the heart, but was able to continue at his trade until lately, when he got so ill that he was obliged to give up work, and, being an emigrant without friends or home,

he sought refuge in the General Protestant Hospital, and was admitted on the 21st Feb., 1865, labouring under pneumonia. He complained of a severe cough, short and difficult breathing, and intense pain in both sides of the chest. Emplas. cantharid. was applied over the right side of the chest anteriorly and afterwards dressed with ung. hydg. mit.; a sedative mixture composed of tart. emetic, tinct opii, and syrupus scillæ was administered. The cough continued very troublesome, and the dyspnœa very severe. The expectoration was of a thick tenacious character, sometimes frothy and frequently tinged with blood. Counter-irritation was kept up on the blistered surface by the application of oleum tiglii, and oleum terebinth, followed by warm fomentations. On the 29th March, potass. cyanid. was substituted for the above mixture to the decided benefit of the patient, as it relieved the cough and pain in the right side.

Condition of patient when he came under my care on the 1st April.

Physical signs. Expansion movement decreased on right and increased on left side; dulness over the entire right side of chest, except the clavicular and scapular regions; in the latter the respiratory murmur was very obscure.

Left lung—in its lower portion there was discoverable slight dulness and minute crepitant ronchus; in its upper portion respiratory murmur harsh and hurried. Cardiac region—Dulness over the region of the heart, less intensified but over a larger space than natural. The sounds of the heart were very muffled, almost inaudible, but could with difficulty be analysed. A little above and to the left of the ensiform cartilage a peculiar systolic, blowing rushing sound was distinctly audible, and could be traced as high up as the third rib. It resembled somewhat the *bruit de diable* in character. There was manifest pulsation of the jugular veins as if the volume of blood were forced back into those vessels, and its retrograde motion was readily perceptible by gently pressing the finger on the veins. These pulsations were at times more distinct than at others, and varying in their intensity with the posture of the patient. His eyes were congested, lips and ears of a bluish colour, face very turgid, and sometimes pain about the cheeks; stooping the head caused headache. He is frequently troubled with epistaxis; pulse, 105, bowels costive, appetite poor, sleeps little, secretions scanty, slight œdema of feet and ankles. I continued the cyanid of potass. mixture with a pill conii co. at bedtime, and castor oil in the morning.

April 3. Coughs less frequently, pulse 100; sleeps better, appetite dull, bowels confined. Ordered pill hydg. j., pill rhei co. i.

6th. Cough severe and frequent, bowels relieved, sleep disturbed by

frightful dreams, pulse 102. Ordered croton oil liniment to be rubbed to the chest anteriorly.

9th. Says he passed the night tolerably well, feels very weak, bowels regular, pulse 100, complains of pain in left side. Ordered brandy.

12th. Coughs hard, sputa rust coloured, bled at the nose during the night, feels weaker, bowels costive, pulse 115, takes the brandy and beef tea very well.

14th. Complains of intense pain in the left side about the mammary region, is unable to keep the recumbent posture, pulse 102; dyspnoea very severe. Ordered hot fomentations to the left side.

16th. Relieved of the pain slightly, coughs less, appetite poor, very weak, pulse 95.

17th. Died.

Despite all that was done to abate the symptoms, he continued to linger on without any improvement until death relieved his sufferings. During three days previous to his death he could not lie in a recumbent posture, and was obliged to sit up in bed owing to severity of dyspnoea. His last few hours were marked by symptoms of great cardiac anguish, anxious and restless, struggling in violent agitation, frequently calling upon the attendants to change him from one position to another, and suddenly throwing up his arms as if to relieve his breathing.

Autopsy.—Body wasted, skin of a pale yellowish colour, œdema of legs and ankles slight, abdomen slightly distended, lips, gums and ears bluish,—dulness of right side of chest.

Pleura—right thickened and adherent to the wall of chest laterally, hepatization of right lung, only a small portion of upper lobe permeable by air, and that contained frothy mucus, cut surface of solid part shewed a dark red, in some places a variegated appearance, its lower portion was a gristly mass, shewing fibrinous white deposits, yellow spots, air cells filled with exudation matter and surrounded with congested capillaries, right bronchus and trachea of a rich cherry red colour. Left pleura natural, except at apex of lung where it was inflamed and thickened. Apex of lung engorged with dark blood, remaining portion healthy, crepitant and containing rust coloured frothy mucus; left bronchus natural.

Heart—the heart was very large, there was extreme flaccidity of the whole organ, its walls were thin, soft and flabby, like a bag of soft leather. The right side was enormously enlarged; this was especially true of the right auricle which was engorged with clotted blood. The right ventricle contained a large polypoid growth attached to the muscular wall at its apex by a number of rootlets branching among the columnæ

carinæ. It extended to the auriclo-ventricular orifice, where it divided into two branches, one proceeding up the pulmonary artery, becoming narrowed at the point, corresponding with the semilunar valves, it then widened and flattened and terminated in two caudate extremities; when measured it was found to be *nine inches* in length. The other branch passed through the tricuspid orifice (where, at the part in contact with the valves, it was very smooth and narrow) into the right auricle where it suddenly assumed the dimensions of a duck egg, flattened and firmly attached to the appendix auriculæ by looplets passing among the muscular pectinati. At the orifice of the inferior cava, it abruptly narrowed and proceeded down that vessel (of which there was compensatory dilatation), to a distance of fifteen inches; it terminated in a number of thready filaments.

The polypus was covered by a thin membrane, and adherent to it in some places fibrinous clots of blood. There were a number of small fibrinous concretions collected round the chordæ tendineæ of the tricuspid valves.

In referring to the particular bruit which was a double sound—one, the louder, was referable to the course of the pulmonary artery, and caused, no doubt, by the collision of the blood against the walls of the pulmonary artery and the surface of the contained polypus. The other sound was referable to the right side of the heart, and caused, in a measure, as I thought by the rushing of blood backwards through the tricuspid orifice, inasmuch as it was simultaneous with the pulsations of the vein of the neck; in addition to that, the point of the greatest intensity of the sound was at the ensiform cartilage. There was also obstruction to the nervous circulation as evidenced by the extreme turpidity of the face and lividity of the lips and ears, and œdema of feet, dilated condition of the right side of the heart, enlarged tricuspid orifice, corrugation of the valves and fibrinous deposits around the chordæ tendineæ, both states rendering them incapable of closing properly round the polypus which passed through the orifice. Then there was the pneumonic condition of both lungs, which disease may have been superinduced by the abnormal state of the right heart interfering with the free circulation of the blood through those organs. The above is interesting in so far as it is illustrative of circumstances under which tricuspid regurgitation may exist. Drs. Hope, Addison, and other eminent physicians were of opinion that tricuspid regurgitation was of very rare occurrence, and such murmurs as were referable to the right side of the heart were not of tricuspid origin but purely mitral. Dr. Todd says of a case in which disease of the right side of the heart existed, "The

bellows murmur so loud over the point of the heart, indicated imperfection of one or other of the auriculo-ventricular valves, probably of that of the left side, since it is more liable to a morbid state. It did not, however, escape my notice, that this sound was very distinct over the sternum, and that it possibly might be developed in the tricuspid orifice. But the rare occurrence of any lesion in that orifice sufficient to develop bellows murmur, rendered such a diagnosis improbable, while the enlargement of the right ventricle and probably of the left, and the extension of the former to the apex of the heart, would materially conduce to the propagation of sound generated in the mitral orifice, to the right side." The experience of physicians such as Drs. Gairdner, Wilkes, Barlow, Gull, and others, shows that tricuspid regurgitation does exist under certain circumstances, and that tricuspid murmurs are of more frequent occurrence than they were at one time supposed.

Carditic polypi are of very rare occurrence, and pathological investigation has as yet thrown but a doubtful light on their cause or origin. Rokitansky, Bouilland, and many others believe that they result from carditis. That opinion will not, however, hold true in this case, as there was no carditis present. Polypi have been found in connection with mitral and tricuspid disease where no inflammation of the containing cavity existed. Dr. Stokes mentions a case recorded by M. Hombert, of a lady who had been fifteen years afflicted with violent palpitations, asthma, nervous pulsations and pains in the thorax, in which polypi were found after death occupying the aorta and pulmonary artery; that in the aorta was two feet in length, firm, red and fleshy in appearance. There was no inflammation present at the time of death, but there was contracted mitral orifice. The presence, then, of carditic polypi with disease of the auriculo ventricular valves causing enlarged or contracted orifice leads me to infer that they may be caused by agitation or undue attrition of the blood while it is in an inflammatory or altered chemico-vital state, against the fleshy columns or against the diseased valves themselves, acting as mechanical obstacles to its free circulation, thereby favouring the deposition of fibrine in the same manner that fibrine is separated from the blood by agitating it with a wire. Fibrinous concretions or inotic coagula may, under similar circumstances, form in any part of the arterial or venous system, and are ante-mortem formations. The polypus in this case appeared to have its origin among the columnæ carinæ of the right ventricle, and was attached to them by a number of entwining processes or loopholes. The portions of it branching into the large vessels was covered by a thin membrane or pedicle of fibrine, floating loosely around it, and had not yet become firmly adhered to it. The presence

of this pedicle may explain the mode in which the polypus was formed. A deposit of fibrine having taken place among the fleshy columns, fresh layers of fibrine were successively deposited around it; thereby acquiring greater size, and floating in the current of blood it acquired greater length and was carried into the large vessels leading from the containing cavity. This process, it would appear, was going on at its distal extremity, and might have acquired greater length as in the case recorded by M. Hombert.

Drs. Walshe and Hope believe that the formation of these coagula is caused by retardation or sluggishness of circulation in connection with weakness of the organ or mechanical obstruction to the circulation, while hyperinosis of the blood is arried to a great extent.

HOSPITAL REPORTS.

Case of Stricture of the Urethra of four years standing, perineal section. Cure. Under the care of Dr. Fenwick. Reported by Mr. R. S. Parker.

John Landrigan, a carter, aged 29 years, was admitted into the Montreal General Hospital on the 3rd January, 1865, suffering from stricture of the urethra. About four years since he contracted a gonorrhœa for the relief of which he never applied to a surgeon. The discharge continued for months, and at last ceased of itself, but since that time he has been unable to make water with a free stream. In June, 1861, bougies were passed, which afforded temporary relief.

The following year, he again applied for relief, and after the passage of instruments, he was enabled to make water with tolerable ease this after he dilated the stricture himself by the passage of a No. 6 gum-elastic catheter about once every week,

After admission into hospital, Holt's dilator was employed with satisfactory results, as a No. 7 bougie was passed with ease.

Towards the end of March or early in April the stricture appeared to gradually but steadily contract; from admitting a tolerably large sized instrument it was found that a No. 2 was passed with difficulty. This state of things continued, and in the following May he came under the care of Dr. Fenwick. That gentleman recommended perineal section, but the patient objected to any operative interference. After a careful perseverance in the treatment, by dilatation, which failed to afford relief, the patient at length consented to an operation, which was performed in the

usual way on the 6th June, and a No. 8 silver catheter passed and allowed to remain in the bladder. The strictures were several in number, and were situated in the spongy portion of the urethra, commencing about three inches from the meatus, which necessitated the scrotum to be well drawn forward before the strictured portion of the canal could be divided to its entire extent.

The extent of the wound was fully three inches in length. At the end of 54 hours the catheter was removed, and another instrument passed with ease; on this occasion a No. 12. size was employed.

June 11th. Catheter removed, and No. 9 introduced and left in the bladder; wound healthy in appearance and granulating nicely.

June 13th. All going on well; patient rests comfortably, complains of annoyance from pressure of the instrument, and in consequence it was removed and left out. Dr. Fenwick stated that several cases, had come under his observation, one on whom he had operated upon some years since, and in whom a fistulous opening had formed and permanently remained at the root of the penis in front of the scrotum. This unfortunate result had been noticed by Mr. Fergusson and other surgeons. He, Dr. F., in his own case attributed it to the pressure of the catheter, he did not see there was any necessity of retaining the instrument in the urethra up to the period of its closure, as there could be no danger now of infiltration into any of the tissues in the neighbourhood of the wound. The case progressed most favourably, the wound cicatrized rapidly, a No. 9 catheter was passed every second or third day, and allowed to remain in for several hours. On the 25th, all discharge of urine ceased from the wound, and a No. 10 catheter was passed with ease. He remained in hospital up to July 8th, when he was discharged, cured; a large sized instrument could be passed with ease, and the man experienced no difficulty in making water in a full stream.

PERISCOPIC DEPARTMENT.

Medicine.

A CASE OF POISONING BY ATROPINE.

By Harry Leach, M. R. C. S.

The following notes may be acceptable to your readers, as cases of poisoning by this drug are, happily, rare, and its effects, when taken in injurious doses, but little known :—

On the evening of the 3rd of June, at 10 o'clock, I was called to the

bedside of a patient, having been told that he had swallowed the contents of a draught phial, marked "Atropine, Poison," and which, upon subsequent inquiry, must have contained about one grain of the sulphate of atropine in solution. He had been under my care for some time, suffering from chronic rheumatism, the long duration of which appeared to have affected his spirits considerably. The draught must have been taken at least an hour before the discovery was made, and on examination the following symptoms existed :—Pupil enormously dilated, so that the irides were hardly visible, eyes moving restlessly from side to side, very refractory when any attempt was made to examine them closely ; refusing obstinately to swallow anything, or to answer questions in any other way than by a grunt ; pulse very quick, and at this time of good volume. He was immediately removed from bed, and with great difficulty a pint of warm water was pumped into the stomach, and almost immediately expelled, little altered in colour or general appearance. At this time his actions were those of a man profoundly intoxicated. Several energetic attempts were made to induce him to swallow strong coffee mixed with a small proportion of whisky, which only partially succeeded. An hour had passed, and his hands were now cold, with a very weak pulse, and continual dragging of the legs when assisted, or rather held up, in walking. During the next four hours he was kept nearly constantly on the move by relays of men, and a tolerably strong galvanic current was passed along the nape of the neck about four times in an hour, which latter operation roused and irritated him in a very great degree. At three a.m. he took a small draught of whisky and water spontaneously, began to quarrel incoherently with his supporters, to laugh in an idiotic manner, and when well roused by additional pushes would walk very well. The pulse improved greatly between four and five a.m., and at the latter hour he devoured ravenously a large slice of dry bread. At six o'clock he was undressed and sent to bed in the following condition : Thoroughly wakeful, incoherent in observations, great helplessness amounting to partial paralysis, of arms and legs, complete unconsciousness of all preceding events, and no change as to pupils. He continued wakeful and partially delirious all day, but took fluid food well, passed verry little urine, with slight action of the bowels. During the succeeding night he was morbidly sensitive to sounds and objects, with symptoms akin to the early stage of meningitis, but was perfectly rational next morning with a pulse at 108, furred tongue, and dry, hot skin. During the next four days catheterism was required several times, partial paralysis of the bladder being evidently the cause of retention, and a week elapsed before the pupils regained their normal condition. A fortnight has now elapsed, and the patient is tolerably well, but much weaker than before.

This case affords an illustration, by way of contrast, of the difference between poisoning by opium and by belladonna :—(1.) The absence of that profound coma so constant as an effect of opium. (2.) The excessive irritability and obstinacy of the patient, who was easily aroused, and commenced immediate resistance to all remedial arrangements. (3.) The apparently idiotic and drunken state in which the patient remained for some time after. (4.) The great want of power manifested for a still longer period.

The treatment indicated appears to be that in cases of poisoning by opium. There is little doubt that the poison was altogether absorbed before the stomach-pump was used, as nothing in the way of food had been taken since 5 p.m. in the same afternoon. It is as clearly indicated that the system requires as much nourishment and stimulant as possible, for I cannot but conclude, from observation of this case, that the ulterior results produced by an overdose of belladonna are far more exhausting than those by opium poisoning.—*Med. Times.*

BACTERIDIA AND MALIGNANT PUSTULE.

To the Editor of the Lancet.—*Sir*,—The facts related in the following extract from a masterly article on Spontaneous Generation, by M. Jamin, in the *Revue des Deux Mondes*, are in all ways so interesting, that I make no apology for asking you to publish them. I ought to add that the italics, which occur in one or two places, are mine.

"Dr. Davaine has devoted himself for some years to the careful study of a terrible malady of the 'charbon' genus—the splenic apoplexy (*sang de rate*—anglicé, 'blood') which develops itself spontaneously in sheep, and is inevitably fatal to them. The blood of the diseased animals, examined under the microscope, has been found crowded with minute organisms allied to the *bacteria*, and which have been named *bacteridia*. This blood injected into the tissue of another animal carries these creatures with it, and death is certain. The malady is equally transmitted when a rabbit is made to swallow either the blood or part of an animal affected with splenic apoplexy. The infected blood may be dried and *kept for an indefinite time without losing the germs of the infusoria which it contains;* and whenever it comes to be injected or to be given as food, the disease is propagated. These facts being ascertained, as the symptoms of splenic apoplexy offer some affinity to those of another malignant malady known by the name of 'charbon' (or 'malignant pustule'), inquiries were instituted as to whether there might not be a still closer bond between the two affections. 'Charbon' begins by

a 'malignant pustule' of blackish colour, surrounded by a ring of vesicles, which must be speedily destroyed by caustic, if a general infection is to be avoided. On the 14th of April, of the present year (1864), Dr. Raimbert was called to a carter, who had contracted a true malignant pustule on a farm where the sheep were suffering from splenic apoplexy. He removed the pustule, dried it at once, and handed it over to Dr. Davaine, who examined it under the microscope. It was a perfect *felt, composed entirely of bacteridia*. Rabbits fed with it contracted splenic apoplexy in consequence, and died with their blood crowded with *bacteridia*, and communicated 'charbon' to other animals. Here, then, is a disease transmitted from sheep to man, and appearing in him under the form of a pustule, which, in its turn, has the power of communicating to all animals the particular virus which it contains. And what is this virus? A brood of infusoria of a special and venomous species. *The smallest quantity suffices to kill because it suffices to sow and multiply the species.* The malady is transmitted by inoculation, because the animalcules pass from the infected to the inoculated subject; it is transmitted by the air, because the germs dry up and are wafted away, and become again sown; possibly, also, as many hold, by the bites of flies, which thus become the vehicle for the transmission of the *bacteridia*. Such is the explanation, not less simple than certain, of the effects of a particular virus. The future will decide how far it is possible to extend to all analogous cases so fertile a theory, but already it is easy to understand the hopes of physiologists and to predict their success; perhaps we are on the eve of knowing, avoiding and curing contagious scourges."

The facts here detailed are not altogether new. Virchow, and some earlier observers, whose names escape me for the moment, had already pointed out the occurrence, in countless numbers, of a kind of "vibrio" in the blood of *living* animals affected with charbon.

I have not been able to refer to Dr. Davaine's own account of these researches; but before the case which he wishes to make out for the minute organisms he describes can be considered as finally established, other data will be required beyond those adduced by his reviewer. Not only must the constant presence of this particular species of *bacteridia* in the disease in question be ascertained, but its absence in other putrefactive disorders. In all such cases there is a special danger, which those who have most studied the subject will best appreciate, of falling into the old error of taking for essential what may possibly be only an epi-phenomenon. The perfect way in which the facts seem to explain all the conditions, although a strong argument in favour of the interpretation set upon them, may, on the other hand, easily beguile us into a too ready acquiescence in it.

At the same time, the whole tendency of recent research, and of Pasteur's discoveries in particular, is to the effect that the tribe of minute organisms to which the *bacteridia* belong, in reality take the initiative in, and are the primary cause of, the zymotic changes with which they are found associated.

The uncontrollable *itching* which marks the first stage of malignant pustule, and is so characteristic of it, is, when considered as a phenomenon which betrays the presence of so many parasites in other parts, not undeserving of attention in connection with Dr. Davaine's view.

Should his discovery be confirmed by more extended researches, it is one of which it will be difficult to overrate the value.

As regards malignant pustule, its importance will be supreme. Diagnosis, pathology, origin, mode of propagation, and indications of cure will be all summed up in the conditions which attach to the growth and multiplication of a single parasitic organism.

In relation to diagnosis, the fact is one which might eventually become of the greatest possible use. For, if it be true that the first brood of *bacteridia* is developed in the part which is to be the seat of the future pustule, the practitioner, armed with the microscope, and with the little "harpoon," with which the Germans dip for trichina, might ascertain the characteristic presence of these minuter parasites by means of an operation not more formidable than the puncture of a grooved needle.

But, as M. Jamin rightly suggests, the interest of this discovery, should it be confirmed, culminates in its relation to the subject of contagion generally.

In a memorandum on the Investigation of Epidemic and Epizotic Disorders, which I drew up at the request of the British Medical Association, in March, 1863, there occurs the following passage:

"In order to render the inquiry on which the Association is about to enter really comprehensive, it would be necessary to associate with the study of epidemics that of the diseases caused in man and animals by living parasites, external and internal.

"A fuller knowledge of the phenomena attaching to the dissemination of the prolific and minute germs of these parasites could not fail to be of great use in helping to the true interpretation of the phenomena which attach to the strictly analogous dissemination of the equally prolific and equally minute germs of contagious poisons.

In particular, it would be of the highest value in showing by data that could not be gainsayed, what is the real worth of the negative evidence now so implicitly relied on, as an indication of spontaneous origin, and as opposed to the law of propagation by continuous succession.

"Additional reasons for putting the parasites and the contagions together in such an inquiry, are:—1, that at many points the two blend, insensibly, one into the other; 2, that, with the advance of knowledge, diseases are constantly being transferred from the group of common contagions to the group of parasites; and, 3, that there already exists amongst the most advanced thinkers on these topics, a shrewd suspicion that the two groups will eventually coalesce, and be found in their essence identical."

Dr. Davaine's interesting discovery seems not unlikely to offer a striking illustration of more than one of the several positions here taken.

I am, Sir, your obedient servant,

WILLIAM BUDD, M.D.

Surgery.

ON LACERATION OF THE INTERNAL LATERAL LIGAMENT OF THE KNEE-JOINT.

By W. B. PEBBLES, M.B., Ch. M.T.C.D.

Surgical writers have taken so little notice of the laceration of the internal lateral ligament of the knee-joint, that the accident must be looked upon as a rare one.

It is fortunate that it is so, for when it has occurred once it is very liable to recur, and the limb cannot be trusted on an emergency during the remainder of life.

Sir Charles Bell, I believe, was the first to describe the accident in his "System of Operative Surgery founded on the basis of Anatomy." At page 317, vol. ii., he says, "This is an accident which I do not see noticed. I have seen it in various degrees, and have had an opportunity of ascertaining the state of the parts in dissection." He then gives a sketch of the thigh bone and tibia, showing how the internal lateral ligament is put on the stretch when the thigh bone is removed from the perpendicular, and says, "the effect of a false step in which the whole weight of the body falls suddenly with a shock is to sprain or lacerate the ligament; so it happens that a person descending a stair, and thinking that he has come to the landing place when one step is still to take, falls with the weight of the body bearing on this ligament and sprains it." He remarks that the accident is more liable to occur in women, "for the more removed the thigh bone is from the perpendicular the more apt is the inner ligament to be sprained." "If the violence be great, we can readily conceive how the ligament is actually torn so as to produce a subluxation of the knee-joint."

In May, 1859, I was sent for to visit a gentleman, aged 32, who, in stepping from a stone, used for mooring boats to, sprained his left knee and fell helplessly to the ground. I found the limb slightly flexed, the toe everted, and some swelling accompanied with pain over the site of the internal lateral ligament. On asking him if anything similar had occurred before, he said that ten years previously, when riding through a rabbit warren, the horse stepped into a hole and fell with him; that his left leg was held between the body of the horse and the ground in a state of eversion; that swelling and pain in the joint resulted; and that antiphlogistic treatment was adopted; but that no flexion or extension, as recommended by Hey for the internal derangement of the knee-joint, was resorted to. Subsequently the joint had received several twists.

After the swelling and pain had been removed by means of leeches, cold lotions, and rest, the joint was strengthened by sea-water douches, iodine, and bandages. In the following shooting season he was able to walk for seven hours on level ground; but upon going on hilly ground the limb at once felt weak.

In the following November, I was suddenly summoned to him again. He had been walking down a steep incline overhanging the sea, with a gun in his hand, when the joint "gave" under him and he rolled down till stopped by a bush. He might have remained there for an indefinite period, as the place was secluded, had not some people come within call. On this occasion the limb presented the former symptoms in a more marked degree. There was much eversion of the foot, a considerable amount of pain, and effusion into the bursa which lies over the ligament. On pressing with the tip of the finger deeply at this point, an interval could be felt between the femur and tibia. I told him that I was of opinion that the ligament had been torn across, and that after antiphlogistic treatment the limb should be kept in an immovable apparatus. I applied a starch bandage strengthened by layers of pasteboard, leaving an opening for leeching, &c., and recommended a laced knee-cap to be worn constantly in bed as well as when moving about after it was removed. Six months after, he went to Professor Fergusson, who, he told me, said that the limb had the signs resulting from Hey's displacement, "but that there had been something else." What he considered that to have been I believe he did not state. He recommended an elastic knee-cap and chloroform liniment. This opinion, coming from so high an authority, shows that the two accidents are closely allied, but they differ in some respects.

I do not mean to say that the cartilage may not have been out of its place and have slipped into it again, but there were points which made

me believe that such had not been the case. For instance, the joint had been made to assume the appearance of "in-knee" suddenly and violently (subluxation), but the patient was able to bring it into the slightly flexed position in which it lay when I first saw it. It was not, as Miller says, "immediately rendered stiff," nor was the accident produced as Hey's is said generally to be—viz., "When a person walking strikes his toe, with the foot everted, against any projection, after which he immediately feels severe sickening pain in the knee, and is unable to straighten the limb."—(Sir A. Cooper).

On each occasion the ligament was subjected to sudden direct violence, and the pain (sickening at first) referred to its centre. It is probable that on the first occasion complete rupture took place, followed by lengthened union (the remaining foot everted) that on the second ligament was only violently sprained, (I could not sink the tip of my finger between the bones) and that on the third, complete rupture took place.

The symptoms of this injury differed from those of Hey's derangement in the greater amount of motion (passive, of course, on account of the pain), which the joint was capable of, the small spot to which the pain was referred, the inconsiderable amount of swelling, and the mode of its occurrence. There was much obscurity still as to the true nature of the "internal derangement;" but from the position, direction, and connexions of the internal lateral ligament, from the eversion of the foot when it is injured, and from the permanence of the eversion after Hey's lesion, it is probable that it never escapes being more or less injured when the relative positions of the cartilage or condyle are suddenly altered, and that the closer the union which it is so desirable to bring about between the torn fibres is, the less liability there will be to recurrence of the accident. Hence the necessity of handling the joint as gently as possible, and of keeping it at perfect rest for a long time after the injury.

The treatment recommended by Sir C. Bell for this laceration is a stiff splint at first and then a jointed one. Locally, leeches followed by a succession of blisters. To this I would add, when walking is resumed, a boot with the sole increased in thickness on the inner edge. This occurred to me in consequence of my patient when walking on the slope of a hill finding it easiest to walk across the slope with the injured limb, the lower one, the weight being thus thrown on the outer edge of the foot. The reason of this appeared to be that it tended to throw the limb into the perpendicular, and ease the ligament. If a jointed splint should be objected to, a laced knee-cap fortified with straps and buckles should be used, and great caution in every movement observed. In bed especially the knee-cap will be necessary.

As recurrence of the accident in a greater or lesser degree may be looked upon almost as a certainty, it is worth considering whether incomplete anchylosis might not be advisable for those whose avocations place them in positions not otherwise dangerous.—*Dublin Med. Press.*

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Tuesday, June 13.

CASE IN WHICH A SIXPENCE WAS LODGED IN THE LARYNX DURING TEN WEEKS.

On November 2, the patient was conversing in a public-house, having a sixpence in his mouth, when something in the conversation having excited his laughter, the sixpence disappeared, and immediately he fell to the ground suffocated. For about an hour there was excessive dyspnœa, which, however, subsequently disappeared so completely that on the following day he experienced no bad effect from the accident, excepting that he was unable to speak aloud, and had slight dysphagia. During the succeeding ten weeks he lost flesh and strength, but experienced no difficulty of breathing, either on exertion or otherwise; the voice remained as at first. On January 6th, his breathing again became embarrassed. After lasting for some hours, the dypsnœa suddenly ceased, apparently in consequence of his having tripped in going down stairs. On the following day he attended at Middlesex Hospital for laryngoscopic examination. The sixpence was seen without difficulty on the first introduction of the laryngeal mirror. It was horizontally placed in the glottis, below the false vocal cords, which covered a portion of its circumference at each side, being in such a position that a transversely oblong breathing space was left between its free edge and the arytenoid cartilages. Several attempts having been made without success to extract the coin through the upper opening of the larynx, by means of loops of wire specially contrived for the purpose, it was resolved to have recourse to laryngo-tracheotomy. An incision an inch and a-half long was made in the middle line from the thyroid cartilage downwards, the edges of which were held apart above and below with two pairs of Trousseau's dilators. The coin could be readily felt by forceps introduced through the wound. Several attempts were made to seize it, in one of which it was displaced upwards into the patient's mouth. At that instant the patient made a sudden gulp, the coin slipped out of reach, and the patient, who had become conscious, made signs that he had swallowed it; it was recovered on the following day. After the operation the patient progressed so favourably that he was able to leave the hospital on January 18th, feeling no effect from the accident,

excepting that the voice was still husky and feeble. By February 20th it had regained its natural character.

The President said that several cases of this kind were on record, but none since the introduction of the laryngoscope. The case was one of great interest.

Dr. Webster referred to several cases on record, and especially the well-known case of the celebrated engineer. He adverted to a case which occurred in his own practice, in which a cherry-stone remained in the bronchus sixty-eight days, and was then expelled by coughing. Louis relates a case in which a small gold coin remained four years in the trachea, and Dupuytren one in which a coin remained ten years. John Stevenson, an old Covenanter, had a bit of mutton bone the size of half a hazel-nut in his trachea fourteen years and nine months, and then coughed it up, and got well. M. Sue met with the case of a girl who had had a piece of chicken bone in her bronchus seventeen years; she coughed it up and got well. Dr. Webster then asked the opinion of the surgeons present to the advisability of opening the trachea in such cases.

Mr. Birkett said the object of the operation in Brunel's case was to enable the patient to take in enough air to enable him to expel it in coughing. Mr. Birkett then referred to the importance of surgeons being provided with a fitting instrument to pass from the opening in the trachea, in order to dislodge a body from the larynx into the mouth. He related a case in which a child was brought to the hospital in *articulo mortis*, after having swallowed a piece of walnut shell. She recovered, but no foreign body could be detected in the larynx at the operation by a probe passed through the tracheal wound. Next day, by passing a larger instrument, an elastic catheter, a piece of walnut shell was dislodged into the mouth.

Mr. Henry Lee said that, in Brunel's case, Sir Benjamin Brodie's object in performing tracheotomy was really to enable him to seize the coin through the opening, but he (Mr. Lee), thought the advantage of opening the trachea was correctly explained by Mr. Birkett. Mr. Lee then related the case of a boy who had swallowed a four-penny-piece. It was supposed to have passed into the larynx, and every time the boy was reversed he was nearly suffocated. He was sent to St. Thomas' Hospital, and one day, while there, felt an inclination to vomit; he heard something chink against the water-closet, and was afterwards well. Mr. Lee repeated that he thought surgeons had an idea of putting forceps in to take out the coin, but he thought that Mr. Birkett's remarks showed that that was not the proper reason for performing tracheotomy in such cases.

Medical Jurisprudence.

THE TRIAL OF EDWARD WILLIAM PRITCHARD, M.D., FOR MURDER.

On Monday, July 3, this trial was commenced before the High Court of Justiciary of Edinburgh. The accused is a member of the Medical Profession, an M.D., of Erlangen, M.R.C.S. Eng., L.S.A. Lond. He was educated at King's College, London, was formerly an assistant-Surgeon in the Navy, and has many relatives in the combatant branch of that service. Before his apprehension he resided in Glasgow, where he had practised, it was said, with some success during a period of six years. He is charged with the murder of his wife and of her mother. The first portion of the indictment preferred against the prisoner states that the prisoner "did wickedly and feloniously administer to Jane Cowan or Taylor, now deceased," "in tapioca and in porter or beer, and in medicine called Battley's sedative solution, tartarised antimony, and aconite, and opium, or one or more of them, and that in consequence Jane Cowan or Taylor died on or about the 25th of February, 1865. The second part of the indictment charges the prisoner with having feloniously administered to his wife, Mary Jane Taylor, "in egg-flip and in cheese, in the porter or beer and in wine, tartarised antimony and aconite, or one or other of them, or some other poison or poisons to the prosecutor unknown," and that in consequence Mary Jane Taylor or Pritchard died on or about the 18th of March, 1865.

The counsel for the defence moved that the two charges made in the indictment should be separated and not go to trial at once. This motion was opposed by the prosecution, and was negatived by the presiding judges. The prisoner pleaded in a firm voice "Not guilty."

As it is impossible for us to publish the whole of the evidence in this remarkable trial, we give the following summary of the whole case, and we append the principal Medical evidence, together with an abstract of the chemical analyses.

Dr. Pritchard is a physician who some six years ago came to reside and practise in Glasgow. He brought with him his wife, to whom outwardly he seemed much attached, and two children. Considering the comparatively short time he had been in Glasgow, he had got together a very respectable practice, with every prospect of doing well. During the latter part of last year Mrs. Pritchard appeared to be in a bad state of health, suffering from almost constant sickness and great depression. As she got no better she went to Edinburgh for a change of air, and whilst there her health wonderfully improved. The sickness left her, and she

was rapidly getting well. She returned at the end of a few weeks to her husband at Glasgow, and almost immediately the old symptoms returned. At length she got so ill that her mother, an old lady of seventy-five, came to stay with her, and in a very short time she also was seized with similar symptoms, and, after a very short sickness died and was buried. The certificate given by Dr. Pritchard assigned her death to apoplexy." Three weeks afterwards Mrs. Pritchard also died, and was sent to Edinburgh for interment, the cause of her death given by her husband being "gastric fever." Dr. Pritchard expressed outwardly extreme grief, and would, before his wife's interment, insist upon having the lid of the coffin opened, that her countenance might be seen by her surviving friends, and that he might have the last and bitter consolation of kissing her now pale lips. Thus far all seemed fair and natural. But, unfortunately for Dr. Pritchard, ugly rumours had already spread abroad that his wife had not met her death by fair means; and these rumours attained such a tangible form that, on his arriving at Glasgow, before the last rites were to be performed over the remains of his wife he was taken into custody. Soon after the preliminary examination of the witnesses was commenced, grave suspicions were excited that Mrs. Taylor, the mother of Mrs. Pritchard, had not died from natural causes. Both bodies were exhumed, and portions of them, and the intestines, brain, heart, liver, &c., were subjected to a rigid chemical analysis. The results were conclusive that both Mrs. Pritchard and her mother had not died from natural causes, but had been poisoned, and by nearly the same kind of poison. After five days' trial the truth had been elicted, and Dr. Pritchard now lies under the sentence of death for the two murders. The evidence given at the trial proves that Dr. Pritchard must have been one of the most hardened monsters that this world has ever seen. Not only did he administer the poison day by day—frequently twice or thrice in the same day—but he lavished on his victim all sorts of endearments, and insisted upon sharing her couch that he might more carefully attend to her. His own counsel's words in endeavouring to show that no man could be guilty of such a crime are worth recording. He said: "If he has committed the crime with which he is charged, I say it was a cold-blooded, deliberate poisoning of those two trusting and loving women. If he be guilty, his cruelty knew no compassion; for, if it be true that he poisoned these women, he did not resort to the use of drugs that in a few minutes might have put them beyond the reach of pain, but chose rather to practise those devilish arts by slow degrees, so that the poison which he was administering should stop his wife's life gradually." Yet the jury without hesitation adopted it as emphatically true by bringing

in the prisoner guilty of those frightful crimes. The motives for such atrocious deeds appear to have been lust and avarice. In the year 1864 there entered into the service of Mrs. Pritchard a young girl of seventeen years of age in the capacity of nurse and housemaid. Dr. Pritchard appears to have been enamoured of her, and, on one occasion according to the girl's (Mary M'Leod) evidence, Mrs. Pritchard surprised her husband in the act of kissing her. Mary M'Leod, who gave her evidence with great reluctance, went on to say that she went to her mistress and asked her to be allowed to leave. Mrs. Pritchard, unfortunately for all parties refused her consent, said Dr. Pritchard was a nasty dirty brute, and that she would speak to him. As might have been expected, he succeeded in seducing this unfortunate girl, and it was drawn from her after a great deal of pressing, and by threatening her with imprisonment, that Dr. Pritchard had promised her that he would marry her if his wife should die before him. Soon after this the slow poisoning process was commenced. All the food which Mrs. Pritchard partook of was carried to her either by her husband or Mary M'Leod, and therefore it became evident that, if Mrs. Pritchard was poisoned, either her husband or the girl M'Leod was the guilty party. It was suggested by the counsel for the defence, that the girl had committed the poisonings in order that she might marry Dr. Pritchard at his wife's death, in fulfilment of his pledge. But this was too monstrous. No girl of seventeen, at all events in the position of Mary M'Leod, would have sufficiently understood the science of slow poisoning (for, unfortunately, of late in several cases it has been demonstrated to be a science) to have caused the death of Mrs. Pritchard in the manner described. The first motive, therefore, would seem to be that Dr. Pritchard was infatuated with this servant girl, and really did wish to marry her, or to carry on a *liaison* with her without any one to interfere. The second motive, as far as can be judged, was the desire of immediately becoming possessed of the property that would come to him in the event of his wife and Mrs. Taylor, her mother dying before him. He was in somewhat straightened circumstances. He had borrowed 500*l.* from Mrs. Taylor, and had overdrawn his account. He might have been pressed for money, although there was no actual evidence of the fact, and this may have induced him to poison Mrs. Taylor in a far more summary way than his wife. The old lady appears to have been, to a certain extent, an opium eater, or perhaps it is better to say that she was fond of Battley's sedative, and could, without inconvenience to herself, take daily sufficient to send half a dozen ordinary persons into the sleep of death. Tartarised antimony was not a sufficiently active poison to work speedily on her frame, and therefore,

although she had some of the same symptoms as Mrs. Pritchard, the quantity of opium she took to a certain extent neutralised the effect of the tartarised antimony, and therefore, the doctor had recourse to the tincture of aconite, which soon put his victim out of her misery. Dr. Pritchard, therefore, had a direct interest in his mother-in-law's death. The girl had none, although she might have in the death of Mrs. Pritchard. The accused murderer was proved to have bought the poisons which destroyed his wife and mother-in-law in most unusual quantities, even for a medical man in the largest practice, and no attempt was made to show how he disposed of them. Two or three servants who happened to partake in a slight degree of some of the food sent up to Mrs. Pritchard were at once seized with the same symptoms, and suffered severely from sickness; and on one occasion Dr. Pritchard said he would sweeten some egg-flip for his wife himself, and went to the dining room for some sugar, thence crossed to his consulting room, where he kept his poisons, and then returned to the kitchen and dropped two lumps of sugar into the mixture. One of the women tasted the egg-flip, and at once perceived an extraordinary flavour, and the effect upon Mrs. Pritchard was at once apparent. It is very rare in murder by poison that positive evidence can be obtained; but in this case there does not appear to have been a single link wanting to bring home the guilt to the accused. The poisons of the same kind, which it was proved he had bought and not accounted for, were found both in the bodies of his wife and mother-in-law sufficient to account for their deaths. There was thus the motives for the murders, the manner in which they were perpetrated, and the results.

Dr. William T. Gairdner, Professor of Medicine in the University of Glasgow, deposed:—"I know the prisoner, I got a message to call at his house between the night of the 8th and the morning of the 9th of February. I think it was between twelve and half-past one o'clock. I was told to come and see Mrs. Pritchard. I went immediately. I had never seen her before. I met Dr. Pritchard at the house, and he took me to his wife's bedroom. He told me in general terms what was the matter with her. He said she had been very sick, and her stomach was not able to bear any food, and she had been some weeks in that state. I found her in bed. She was lying on her back, with her face considerably flushed. She appeared to be in a state of considerable excitement, and she told me herself that she had been sick. Prisoner spoke about spasms; but I cannot remember if I got the first information of the spasms from him or from her. I recollect that, after the spasms were mentioned to me, then he said it was catalepsy. He mentioned to me

that Dr. Cowan had seen her, and ordered stimulants, and that his wife had had chloroform, but whether by Dr. Cowan's orders or not I don't know. I think he said she had had champagne. Mrs Pritchard began by apologising for not having sent for me sooner. Dr. Cowan, she said, was a friend of the family, and she had sent for him and he had come. She afterwards said that she was aware that I had been a class-fellow of her brother, Dr. Matthew Taylor, of Penrith. I had some other conversation with her, and spoke to her of her symptoms. I found that she had been sick, but was now in a state of extreme exhaustion. She had a pretty good pulse, and there was nothing in her symptoms indicating immediate danger. The most remarkable symptom was the violent state of excitement she was in and the spasms in the hands. She was holding up her arms in bed, and her wrists were turned in ; her thumbs were also turned in towards the wrists. Her hands were in a very peculiar state. The impression I formed as to the cause of the excitement was that she was intoxicated by the champagne and chloroform. I withdrew to the fire to warm my hands, with the view to make an examination, when I had no sooner moved towards the fire than she began to scream at the top pitch of her voice, ' Oh, you cruel man ! you unfeeling man ! don't leave me !' I returned to her bedside, and said I was not going to leave, but I was going to warm my hands. I did so. In the midst of this she was in a state of the most violent hysterical excitement. After various inquiries, and after feeling the state of her skin, I came to the conclusion that she was not in a state to give evidence of her own previous history that night, and I gave the orders that I thought necessary, and left. I ordered that the stimulants should be discontinued. I gave this order emphatically to Dr. Pritchard, and told him most decidedly that she was to get no stimulants whatever until I saw her again. I hardly know what catelepsy is. It is not a disease of ordinary medical experience at all. Almost all we know about it is from books, and what is written about it is to a great extent apocryphal. Therefore, I do not presume to be an authority about catalepsy. Mrs. Pritchard made use of a great deal of language while in the hysterical state, but I took no notice of it, and, in fact, intentionally ignored it. I have great difficulty in remembering whether any of the servants were present. I called again between one and two on the day of which this was the morning. I saw Dr. Pritchard, who said his wife was better and quite quiet. I cannot remember whether he said anything more. He gave me the impression that she was better. We went to Mrs. Pritchard's bedroom, and I found her quiet, She was free from fever. I had some conversation with her, and assured myself that she felt better, and that she

had not vomited since I last saw her; but she still had the remains of spasms in the hands. I directed that she was still to get no stimulants and no medicine. I instructed that when she wanted food she was to get a plain boiled egg and a bit of bread, and I told her that my object was to make her diet as simple as it could possibly be, in order that there could be no possibility of her taking anything which would disagree with her—that is, nothing that would produce sickness or irritation of the stomach. At my visit I was very much puzzled to know what was the matter with her. I thought she was intoxicated—drunk, in fact—and I thought she was hysterical. I thought it was a case which would require serious, constant attention. I never saw Mrs. Pritchard again. I had to leave town two days after for a distant engagement, and before doing so I wrote a note or sent a message to ascertain how Mrs. Pritchard was, and I received for answer that she was better. I returned on the Saturday afternoon, and on my return there was a patient waiting for me. While I was engaged, I believe Dr. Pritchard called and left word that Mrs. Pritchard was better, and that I need not call. I wrote to Dr. Taylor, the brother of Mrs. Pritchard. I did so, I think, on February 9, after my second visit. My reason for doing so was that I was puzzled, and I thought the practice bad, in so far as the stimulants were concerned at least, and I wished to be aided and backed by his assistance.

Cross-examined by Mr. Clark: "The word 'catalepsy' seemed to me to have no application to the case. I observed nothing peculiar in Dr. Pritchard's nomenclature of disease except that perhaps it was occasionally a little at random. I mean by that that I don't think he was a model of accuracy and wisdom, and cautious in applying names to things. When I wrote to her brother, the first night after I saw her, I did not indicate to him that there had been anything more than improper treatment—I did not indicate to him that there had been any foul play."

Dr. James Paterson, formerly professor of midwifery in the Andersonian Medical School, was then examined by the Solicitor-General. He said:—I remember being called to Dr. Pritchard's house on Friday, the 24th of February last. That was the first time I ever crossed his threshold. I was called between half-past ten and a quarter to eleven. Dr. Pritchard conducted me into his consulting-room on the first floor, and there he told me that his mother-in-law, while in the act of writing a letter, had suddenly been taken ill, and had fallen off her chair upon the floor. I think he said it would be about an hour or half an hour before I came that this happened. I asked if he could assign any reason or

cause for the suddeness of the attack. He said his mother-in-law and Mrs. Pritchard had been partaking of some bitter beer, as I understood, to supper, soon after which they both became sick and vomited, and both complained that the beer was much more bitter to the taste than usual. He said they could not have taken more than a third of the pint each, because there was still some remaining in the bottle. I said I could not think it possible that either Allsop's or Bass' beer would produce such an effect, and that the attack must depend on some other cause. I asked him with regard to the previous state of his mother-in-law's health, and particularly as to her social habits, when, by a particular insinuation, he led me to understand that she was in the habit of taking a drop occasionally. He stated also that Mrs. Pritchard had been very poorly a long time past with gastric fever, and that some days before he had telegraphed for his mother-in-law to come and attend her in her illness. I then went upstairs to the bedreom, and on entering I observed Mrs. Taylor lying on the edge of the bed next to me. She was lying on her right side. All her clothes were on, and she had all the appearance of a sudden seizure. Mrs. Pritchard, with her nightdress on, with nothing on her head, and with her hair much dishevelled, was in the same bed, underneath the clothes, and sitting up immediately beyond her mother. On examining Mrs. Taylor, my impression was that she had previously been in very good health. She seemed to me to be rather above the ordinary size, good-looking, well-formed, and altogether, I should say, a very superior, looking person. There was not the slightest appearance of her being in the use of spirits or intoxicating liquors. On examining her face it was rather pale, but the expression was calm and placid. The eye-lids were partially closed; the lips were rather livid; the breathing was slow and laborious. The skin was cool, and covered with a clammy perspiration. The pulse was almost imperceptible, and she seemed to be perfectly unconscious. On my opening up her eyelids I found both pupils very much contracted. From these symptoms, and judging from her general appearance, my conviction was that she was under the influence of opium or some other powerful narcotic, and I at once pronounced my opinion that she was dying. On my doing so, Dr, Pritchard, in an under tone, said something, apparently unwilling that the expression of my opinion should be heard by the ladies. We retired a little from the bedside, and I then said distinctly that she was dying. Dr. Pritchard said she had frequently had attacks before of a similar kind, but never one so severe. I said nothing we could do would have the slightest effect, but as a last resource we might try mustard poultices to the soles of the feet, the calves of the legs, and the inside of the thighs; and as quickly as possible administer a

strong turpentine injection. Dr. Pritchard at once proceeded to prepare an enema, and he said he had a little before given her one in which he had administered a glass of brandy. Mrs. Taylor lay apparently comatose or unconscious, but on her being roused a little, and the head and shoulders slightly elevated, a degree of consciousness came on, and the pulse became perceptible at the wrist. I directed Pritchard's attention to the pulse at the wrist as showing a slight reaction, and he clapped Mrs. Taylor on the shoulder and said, "You are getting better, darling." A slight fit of retching now came on, and she put up a small quantity of a frothy kind of mucus, immediately after which the coma returned. The breathing became more oppressed, more laboured, and evacuations were passed involuntarily. I then concluded that the case was utterly hopeless, but Pritchard administered the enema in my presence. I afterwards left the room and went downstairs, accompanied by Pritchard, and we entered the consulting-room. I repeated my opinion that she was in a state of narcotism. Pritchard then stated that the old lady was in the habit of regularly using Battley's sedative solution, that she had a few days before purchased not less than a half-pound bottle of the medicine, and that he had no doubt but that it was very likely she might have taken a good "swig" of it. That was his expression. There was little more said at the time. I know Battley's solution, but I very seldom have used it. While attending to Mrs. Taylor in the bedroom I was very much struck at the same time with the appearance of Mrs. Pritchard. I must say I could not banish from my mind the conviction that her symptoms betokened that she was under the depressing influence of antimony. I never put a single question to Mrs. Pritchard. The impression was created entirely by her appearance. A little before one o'clock next morning my door-bell was rung, and there was a girl asking for me to come directly to Mrs. Taylor. I refused to go, because I was certain that I could be of no service, and as I was very much fatigued with the previous day's work. But I sent my compliments to Dr. Pritchard, saying that if he really thought I could be of use he was to send back word, and I would then visit him. My house is only a short distance from his in the same street—195 yards. No message came back, and I did not rise. On the 3rd of March I received through the post-office a schedule from the registrar, in which I was requested to tell him the cause of Mrs. Taylor's death, and the duration of her disease. I refused to do so, and sent the schedule back to the registrar on the Saturday, with a note accompanying it, and directing his attention to the circumstance. I accidentally met the prisoner in Sauciehall street on the Wednesday after Mrs. Taylor's death. He said I had been very correct in my opinion with

regard to his mother-in-law; and added that he would feel obliged if I would visit Mrs. Pritchard next day. On Thursday, the 2nd March, about eleven in the forenoon, I saw Mrs. Pritchard in bed. She was still very weak and prostrate. In a very earnest manner she asked me if I really thought that her mother was dying when I saw her. I said, "Most decidedly," and that I had told Pritchard so. She then clasped her hands, looked up, and feebly exclaimed, "Good God, is it possible?" and burst into a flood of tears. I asked her with regard to the previous state of her mother's health. She told me her mother's health was generally very good, but she suffered occasionally from what she called neuralgic headache, and for the relief of these attacks she took a little of Battley's sedative solution. I understood that she was not in the habit of taking it. I then questioned her with regard to herself, and prescribed some stimulants to recruit her strength, and some cooling drink to relieve the heat and irritation. Dr. Pritchard called on me about eight o'clock on the evening of the 17th of March, and requested me to visit Mrs. Pritchard. When I saw her I was much struck by her terribly altered appearance. She seemed quite conscious, for she caught my hand, and I could see a half smile of recognition on her countenance. She began to mutter something about vomiting. Dr. Pritchard was standing behind, and he volunteered to say she had not been vomiting, and that she was only raving. She complained of great thirst. There was a peculiarly wild expression in her face. The eyes were of fiery red, sunk in the head; her cheeks were hollow, sharp and pinched, and still much flushed. Her pulse was very weak and exceedingly rapid. Her tongue was of a darkish brown colour, very foul—very foul. She immediately began to grasp as if to catch some imaginary object about the bed clothes. Pritchard said she had not slept for four or five days and nights. I then said we must endeavour to do something to relieve her, and if possible procure some refreshing sleep. We left the bedroom, and went downstairs. I then prescribed. A dose was to be repeated in four hours if the first did not produce sleep. The prescription was written to my dictation by Dr. Pritchard. About one next morning my bell was loudly rung, and a young woman requested me to come to Mrs. Pritchard immediately, as she had become much worse. I proceeded to dress, but in less than three minutes my door bell was again rung, and the servant girl said I need not come, as Mrs. Pritchard was dead.

In cross-examination, witness stated that it was his impression on seeing Mrs. Pritchard that she was poisoned, or being poisoned with antimony. He did not go back to see her, because she was not his patient. He had nothing to do with her. It was not his duty to do so. You saw

a person being poisoned with antimony, and you did not think it was your duty to interfere? I did the best I could to prevent her being further injured by apprising the registrar of the fact. Did you tell Dr. Pritchard?—I did not. You were surely under an obligation to go back again when you saw a person being poisoned by antimony?—I took what steps I could to prevent any further administration of the drug. I refused to certify the death of Mrs. Taylor, and if there had been a post-mortem examination of Mrs. Taylor's body I believe that the drugging with antimony would have gone no further at that time. I observed that she was suffering under the same symptoms as those formerly observed when I was called in on the 2nd March. I still believed her to be suffering under antimony, and prescribed for her accordingly. I saw her alone, but did not mention antimony to her in the slightest. The treatment I prescribed for her, provided she got nothing else, was quite sufficient to have brought her very soon round, taking it for granted that my prescriptions were carefully walked up to, or rather my advice. It was Dr. Pritchard who asked me to visit his wife on the occasion. I did not mention to him what I thought. It would not have been a very safe matter to have done. I did not go back, because it was none of my business. I did not consider it my duty. She had her husband who was a Medical man. I had discharged my duty. By prescribing certain things, and not going to see that your prescription was followed—In the case of a consultation the consultant has no right to go back. The dignity of your profession, then, prevented you?—The etiquette of the profession. In re-examination, witness, being asked why it would not have been safe to communicate his suspicions to Dr. Pritchard, said he would rather not answer that question. The letter to the registrar had been destroyed, but he could give it *verbatim*, as he had paid great attention to it.

James Struthers, registrar of the Blytheswood district in Glasgow, was then examined, and stated that Mr. Taylor intimated the death of Mrs. Taylor to him. Dr. Paterson was said to have been the medical attendant, but he returned the schedule sent to him. Dr. Pritchard then sent a certificate. He also sent a certificate of his wife's death.

Dr. James Paterson was then recalled, and gave the following as the letter he had written to the registrar:—

"Dear Sir,—I am surprised that I am called on to certify the cause of death in this case. I only saw the person a few minutes, and a very short period before her death. She seemed to be under some narcotic; but Dr. Pritchard, who was present from the first moment of her illness till death occurred, and which had been in his own house, may certify the cause. The death was certainly sudden, unexpected, and to me mysterious."

I rendered emphatic the words "the cause of death" by having them underlined.

The Lord Justice-Clerk.—In answer to a question from the prisoner's counsel, I think you said your impression when you first saw Mrs. Pritchard, and afterwards when you saw her on the 2nd of March, was that she was being poisoned with antimony. Do you mean you believe some person was engaged in administering antimony for the purpose of procuring her death?—Yes; but to me unknown. Was that your meaning? That was what I meant.

THE SCIENTIFIC EVIDENCE.

The Medical scientific witnesses in the case were then called. The reports to which they spoke were nine in number, and the following is a brief statement of their purport:—No. 1 was a Medical report by Dr. Douglas Maclagan, Professor of Medical Jurisprudence in Edinburgh University, and Dr. H. D. Littlejohn, Edinburgh, of the post-mortem examination of the body of Mrs. Pritchard. It was dated the 21st of March, and stated that the body appeared to be that of a healthy woman, of about the age stated on the coffin-plate, thirty-nine years. It concluded:—"We have to report that this body presented no appearances of recent morbid action, beyond a certain amount of irritation of the alimentary canal, and nothing at all capable of accounting for death. We have, therefore, secured the alimentary canal and its contents, the heart and some of the blood, the liver, the spleen, the left kidney, and the urine, in order that these may be submitted to chemical analysis." No. 2 was the chemical report of Dr. Maclagan on the death of Mrs. Pritchard. It stated that antimony had been found in the stomach, urine, liver-bile, blood, and liver. The following were the conclusions:—"1. That Mrs. Pritchard had taken a large quantity of antimony in the form of tartar emetic. 2. That, having regard to the absence in her case of any morbid appearances sufficient to cause death, and to the presence in it of a large quantity of a substance known to be capable of destroying life, her death must be ascribed to the action of antimony. 3. That it is most unlikely that this poison was taken in a single large dose. Had this been the case, I should have expected to have found some more decided evidence of irritant action in the mouth, throat, or alimentary canal. 4. That, from the extent to which the whole organs and fluids of the body were impregnated with it, it must have been taken in repeated doses, the aggregate of which must have amounted to a large quantity. 5. That, from the large amount found in the liver, from its ready detection in the blood, and from its being found passing so copiously out of the body by the bile

and urine, it is probable that some of the poison had been taken at no greater interval than a period of a few days previous to death. 6. That I am inclined to believe that it had not been administered, at all events in any great quantity, until within a few hours of her death. Had this been the case, I would have expected to have found at least some traces of it in the contents of the stomach, and more in the contents of the intestines; whereas none was found in the former, and the amount found in the latter seems to be amply accounted for by the bile impregnated with the poison discharged into them from the liver. 7. That the period over which the administration had extended cannot be determined by mere chemical investigation, but must be deduced from the history of the case, with which I am unacquainted." No. 3 was a report of analysis in the case of Mrs. Pritchard by Frederick Penny, Professor of Chemistry, Glasgow. His conclusions were:—"1. That all the parts of the body examined by me—namely, the stomach, liver, spleen, kidney, heart, brain, blood, and rectum—contained antimony. 2. That, in the dried contents of the intestines the antimony was partly in a form soluble in water, and most likely in the state of tartar emetic or tartarized antimony. In the liver, kidney, and the other viscera, the antimony was deposited in a state insoluble in water. 3. That the contents of the intestines contained the largest proportion of antimony next the heart, then the liver, kidney, and spleen, less in the stomach, and the smallest quantity in the rectum, brain, and blood. Not knowing the total weight either of the contents, the intestines, or of the several organs here enumerated, I was unable to calculate the total quantity of antimony in these matters, either separately or conjoined. 4. That the contents of the intestines, the spleen, the heart, the blood, and the kidney contained mercury; but that none of this metal was present in the liver, stomach, rectum, and brain; but in all these matters the mercury was in a state insoluble in water, and this result is quite consistent with the known property of mercury to form insoluble combinations with animal substances, even though it had been taken or administered in a soluble form during life. 5. That the largest quantity of mercury was contained in the contents of the intestines, next in the spleen and heart, and extremely minute traces in the blood and kidney. 6. That the presence of antimony and mercury in the contents of the intesti es indicates that these metals were being passed from the deceased up to time of death. 7. That no other metallic poison was contained in the matters examined. 8. That no aconite, morphia, or other vegetable poison, discoverable by chemical processes, was contained either in the contents of the intestines or in the stomach. 9. Not having detected any organic poison, either in

the said contents of the intestines or in the stomach, it was not necessary to examine the other articles for such poison, and more especially as the quantities of these matters received for analysis were too small to hold out any prospect of a successful result. No. 4 was a report by Dr. Maclagan and Dr. Littlejohn, dated the 30th of March, on the post-mortem examination of Mrs. Taylor, whose body was exhumed at Grange Cemetery, Edinburgh, that day, and the coffin-plate bore, "Jane Taylor, died February 25, 1865, aged seventy-one years." The report concluded in similar terms to the report in the case of Mrs. Pritchard. No. 5 was the chemical report by Dr. Maclagan on the organs of Mrs. Taylor. The conclusions were:—"1. That Mrs. Taylor had taken a considerable quantity of antimony in the form of tartar emetic. 2. That, having regard to the absence of any morbid appearances sufficient to account for death, and to the presence in the body of a considerable quantity of a substance known to be capable of destroying life, her death must be ascribed to the action of antimony. 3. That it is most likely that this was not taken in a single large dose. Had this been the case, I should have expected to have found some morbid appearance indicative of the irritant action of the drug. It appears to me more probable, from the amount found in the body, that it must have been taken in a succession of doses, not great enough individually to produce local irritant effects, but amounting in the aggregate to a large quantity. It is right, however, to add, that a single copious dose, not large enough to produce marked local effects, might give rise to fatal depression of the system in a woman aged seventy-one, whose heart was enlarged and somewhat dilated. 4. That, from the fact that antimony was found copiously in the liver, was readily detected in the blood, and existed to the amount of a quarter of a grain in the stomach, some at least of the tartar emetic had been taken probably within a few hours before death. 5. That, from mere chemical investigations, I am unable to say over what length of time the administration of the antimony had extended supposing it, as I believe, to have been taken in a succession of doses. This can be learnt only from a consideration of the history of the case, with which I am unacquainted. No. 6 was Professor Penny's case in the report in the case of Mrs. Taylor. He certified as follows:—"1. That all the articles subjected to analysis contained antimony. 2. That the dried contents of the intestines contained the largest proportion of antimony, next, the liver and stomach, then the blood, and in less quantity the heart, kidney, and rectum. 3. That part of the antimony in the contents of the intestines is in a form soluble in water. 4. That the kidney was the only article in which mercury was detected. 5. That neither the stomach nor the contents of the intestines con-

tained aconite or morphia in quantity sufficient to be detected by known chemical processes. 6. That the articles subjected to analysis contained no other metallic poison than antimony and mercury, as reported above." Nos. 7 and 8 were reports by Professor Penny on the articles found in the house of the prisoner.

After the medical and chemical reports had been given in, Dr. Maclagan was cross-examined as to the processes used in his analysis, but nothing of importance was elicited. In re-examination, he stated that the quantity of antimony in the intestines, estimated by the portion submitted to analysis, was 5·712, or nearly six grains.

Dr. Frederick Penny was then examined on his reports and experiments. In addition to the antimony found in the bottle of Battley's solution, he had by further experiments discovered the presence of aconite. He detected it by applying an extract, obtained by evaporation, to his tongue, when it produced the tingling and benumbing sensation characteristic of aconite. A further portion was treated with ammonia and diluted hydrochloric acid, on the evaporation of which it produced the same sensations strongly and distinctly. He added ten per cent. of Fleming's tincture of aconite to Battley's solution, which produced the same sensations very much stronger. He concluded that the solution given to him for examination contained more than five and less than ten per cent. of tincture of aconite. Witness then described a series of experiments made by him on rabbits with Battley's solution, as purchased by him in various places in Glasgow and London, with the solution with tincture of aconite added by himself, and with the mixture under investigation. The preparations had been injected under the skin of the back of the rabbits, between the skin and the muscles. With the genuine Battley the rabbits assumed a prone position, resting on belly and chest, and the head invariably resting on the ground. The fore legs were either sprawling or gathered under the body, the hind legs lying extended sideways; the eyes remained open, and the pupils were natural and not contracted. The breathing was invariably gentle; no cries were uttered; no convulsions or spasms of the body were apparent. There was a complete condition of inanity, and, with the exception of the open state of the eyes, the animals seemed to be in a state of perfect sleep. In this state the animals remained for several hours, and then gradually recovered. The effects produced upon the animals by Battley's solution containing aconite presented a striking contrast to the symptoms resulting from pure Battley. Soon after the injection the animal became restless and uneasy, and then began to crouch, resting on its flank, the hind legs extended literally, and keeping its head erect. It next assumed the sitting posture

in an attitude of watchful expectancy, and commenced to twitch its lips and move its jaws as if chewing. Suddenly it staggered and reeled over, quickly regaining its feet; saliva began to flow from the mouth, and soon after, piteous and peculiar choking cries were emitted. The head was retracted, and the breathing was painfully laborious. Convulsions now set in, followed by intervals, during which the limbs were quite relaxed, and the animal lay helpless on its side. Frantic leaps were now frequently taken. A state of utter prostration then occurred, variable in duration, and then a strong convulsion came on, during which, or immediately after, the animal expired, the limbs becoming instantly relaxed. The results produced by this bottle corresponded in every respect with the effects produced by the above mixture, and were so closely similar that it was impossible to detect any essential difference in them. In the case of the small rabbits, the experiments were made at the same time, and, without knowing beforehand, it would not have been possible to distinguish the animal under the influence of this Battley from the one under the influence of the mixture of Battley and the aconite. These results left no doubt on his mind, joined with the sensations, that that bottle contained aconite. All the other experiments, which were numerous and varied, confirmed these results.

In cross-examination, Dr. Penny stated that results similar to that produced by antimony under Reinsch's process might be produced by oily matters, but that he would never be satisfied to stop short with that process. In re-examination, he stated that the experiments with the rabbits had been repeated in Edinburgh, in presence of Drs. Maclaghan and Littlejohn, with precisely similar results. So far as he could say, the mixture under examination differed only from the genuine Battley in the presence of antimony and aconite.

He stated that the symptoms described as shown by Mrs. Taylor corresponded with the action of tartarized antimony as known to him from study. The powders stated by Dr. Paterson as prescribed by him, and which contained calomel, accounted for the traces of mercury found in the analysis. The symptoms shown by Mrs. Pritchard also corresponded with those arising from antimony.

Dr. Douglas Maclagan, recalled and shown his chemical report on Mrs. Pritchard's case, said his better acquaintance with the case confirmed the conclusions there stated. The symptoms suggested the administration of antimony at an early period of the illness. Most probably the administration of antimony had been going on the whole time, from the commencement of the illness in December. From the evidence given and the symptoms described, he was unable to suggest any other cause for

the death. He knew of no natural cause to which the death could be ascribed. Outward application of antimony for a sprain could not account for the death. He never saw anything rubbed on the skin producing any of the constitutional effects of antimony. The powders prescribed by Dr. Paterson would account for the presence of mercury in the body. The history of the case, as he had heard it in the evidence, decidedly confirmed the conclusions in his report. There was nothing to indicate that Mrs. Pritchard had been labouring under fever of any kind. Being referred to his chemical report in Mrs. Taylor's case, Dr. Maclagan said he was inclined now to think there had been something more than antimony at the last. The symptoms exhibited by her might be produced by aconite. He thought Mrs. Taylor, being found suddenly with her head falling, the breathing being hardly perceptible, the pulse almost, if not altogether, imperceptible, and the generally torpid condition of the brain and the lowered state of the circulation, were indications such as would have resulted from aconite; but aconite, like most poisons, varied a little in the effects it produced on different individuals. But these were symptoms likely to have been produced by aconite. He agreed with Dr. Penny in describing the results of the experiments with Battley's solution. Antimony passed pretty rapidly out of the system by vomiting and purging, weakening and ultimately destroying the patient. Opium might lessen tendency to vomit, but a pernicious effect on the muscular tissue would remain. He had never known a patient under the influence of aconite and antimony at the same time; but if opium, aconite, and antimony were administered, so as to be operating at the same time, the symptoms which Mrs. Taylor had exhibited were such as he would have anticipated, because the aconite being the most powerful, would predominate. There was nothing in her symptoms to indicate apoplexy. That idea was satisfactorily excluded in his judgment.

Cross-examined.—There were no traces of poisoning by opium in Mrs. Taylor. Her symptoms were not inconsistent with her having taken opium, but they did not indicate poisoning by opium. Aconite could not be detected by chemical analysis, and opium was another vegetable poison which was absorbed in the system. A person might be poisoned by opium without any remains in the stomach or the system being detected by chemical analysis. Mineral poisons were more easily detected, and the expectation was that if a person were poisoned by antimony it would be detected by chemical analysis. The contraction of Mrs. Taylor's eyes might arise from opium, but it was an indication of aconite also.

By the Court.—If Dr. Penny's estimate of the amount of aconite in

the mixture were correct, Mrs. Taylor might have taken 100 drops to produce the symptoms. A person accustomed to the use of Battley's solution might take 100 drops quite well.

Dr. Henry D. Littlejohn assisted in the post-mortem examination of Mrs. Taylor and Mrs. Pritchard, and concurred in the reports. He was of opinion that Mrs. Pritchard's death was caused by antimony administered in small quantities and continuously. In Mrs. Taylor's case he had no difficulty in arriving at the opinion that she died of poison, but he had difficulty in determing the particular poison that killed her. He thought the symptoms were mixed in her case, to some extent, like those of narcotic poison, and to some extent like those of antimony. Antimony in large quantities would produce a burning sensation in the throat. It could be readily administered in a liquid or beat up in egg-flip. It dissolves readily. Lump-sugar, being porous, would easily take up a sufficient quantity of antimony to cause vomiting.

In cross-examination, witness said he had made no special experiments to test this, but, from his knowledge of tartar emetic, he was entitled to make the statement he had done. It was impossible that opium alone could produce the symptoms exhibited by Mrs. Taylor.

Dr. James Paterson stated that the evidence he had heard had confirmed the conviction he held in regard to Mrs. Pritchard's case. He was well acquainted with the symptoms of poisoning by antimony, and those of Mrs. Pritchard indicated chronic poisoning by small and repeated doses. It was his decided impression that she was killed by chronic poisoning by antimony. He thought Mrs. Taylor might have died from opium, but there might be some other narcotic poison. He had made an experiment with aconite, by applying it to the tongue. It produced a strong tingling sensation, accompanied by numbness, which lasted at least four hours. He would never forget the taste while he lived. He had no suspicion of antimony in Mrs. Taylor's case, but he now believed her death had been caused by opium and antimony. A less dose of opium would have a greater effect, seeing the patient was previously under the influence of antimony. The effect would be much more rapid if aconite were also combined.

John M'Millan, assistant to Murdoch Brothers, deposed to having filled a bottle with Battley's solution for Mary M'Leod on the 28th of February. Cross-examined, he said he had previously filled the same bottle for an old lady, the circumstance being fixed on his memory because she told him to cork it well, as she had once lost a quantity of it. The purchase of the solution by Murdoch Brothers was proved by Mr. Barron, of Barron, Harveys, Becketts, and Simpson, wholesale druggists, London,

and by Mr. Watts, of Battley and Watts, proprietors of the recipe. The last-mentioned witness declined to state the exact composition of the solution, but said it was a watery solution of opium, and contained neither antimony nor aconite, nor any other poisonous ingredient except opium.

After some unimportant evidence, the prisoner's declarations were read. In the first, on his apprehension on the 22nd of March, the prisoner stated:—

"I have always attended my wife in all her ailments of every kind during the whole period of our married lives, now fifteen years, and some of these illnesses were very severe, but I never saw her so ill as she was on this occasion, which terminated fatally. As far as my judgment goes, her last illness was gastric fever, which commenced about the beginning of the present year. I gave my wife no medicines during her illness, except wine, champagne, and brandy, to support her strength; and I gave her no medicine myself at all. I trusted to nature to right itself with the assistance of these restoratives. During the last six weeks her power of sleeping entirely went away. In order to procure sleep I gave her at the commencement of her sleeplessness a small quantity of chloroform, but it entirely disagreed with her, and I discontinued it. I then called in Dr. Gairdner, professor of medicines in the University, and he visited and saw her several times, and he continued to attend her till her old medical friend, who had attended her before our marriage, Dr. James Moffat Cowan, returned, and he came from Edinburgh to see her. I then wrote to her mother to come to nurse her, and she arrived about the 11th of February last, and her arrival had a beneficial effect upon Mrs. Pritchard for some time, but still the sleeplessness continued, and shortly after her mother's death, which happened on the 25th of February, she relapsed and became much worse, and very apprehensive about herself, and she suggested to me the adoption of a medicine with which her mother was very familiar, Battley's solution of opium, but I declined to give any without first consulting with Dr. James Paterson, who lived close by. I saw him and consulted him, but he did not see Mrs. Pritchard on that occasion, and he did not approve of using the solution of opium. He prescribed granulated citrate of magnesia, calomel, mercury, and chalk, and I acted upon his advice and administered the medicine, and it seemed to have a beneficial effect. Some time after, finding her sleeplessness still continued, I, at her own suggestion, applied a solution of atropine to the external parts around the eye, and it had a little effect for some time, but the effects soon ceased. After her mother's death she became rapidly worse — indeed, I ascribed her decease to the agitation consequent on her mother's decease. At the time of the last event she was

strongly impressed with the idea that she herself would die at the same time as her mother, and in fact she did die on a subsequent day at exactly the same hour. On the night preceding her death, she was apprehensive that unless she got sleep she would not get through the night. I went for Dr. Paterson, who came immediately, and sat for a considerable time by the bedside, and afterwards dictated a prescription, which was made up at the Glasgow Apothecaries' Company's shop at Elmbank street. The prescription will be found in my desk at home. It was for two draughts, one to be given four hours after the first, if it did not succeed. She got the first draught, as prescribed by Dr. Paterson, about 10 o'clock, but she said, after drinking, that it was not strong enough, and asked if she might have some of her mother's medicine. I refused to give it to her, and said I dare not do it. I gave her a glass of port wine, and sat carefully watching for a short time. I then went down stairs and had supper, and after being absent some time returned to see whether she had got sleep. I found her awake, and she wished me to give her something to make her sleep. I refused, and she then asked me to come to bed, as I must be tired with the weary nights of watching. It was then about 12 o'clock. I tried to persuade her that I should remain up to watch her till past the time that her mother had died, but to please her I got into bed, and almost immediately I fell asleep from the state of exhaustion I was in. I was awoke by her pulling at my beard, and I found my wife struggling to get into bed. She appeared to have got out of bed. She said, 'Edward, I am faint.' I assisted her into bed, and asked her how long I had been asleep; but she answered, 'Don't speak —look! do you see my mother?' I said, 'No! it is only a vision—only imagination,' and asked if she had any pain. She said she felt cold, and that I need try no more skill; and that I had failed this time, and that she was going to her mother. I got alarmed, and rang the bell violently, and the youngest servant came. I desired her to make a mustard plaster as quickly as she could, and on that my wife turned round and said, 'Edward, I'm in my senses, mustard plasters will do no good,' and almost immediately she fell back in my arms and died. The servant came with a mustard plaster and found her in that position. I did not give her any other medicine at that time, except a little brandy applied to her lips. During the whole course of her illness I never gave her any antimony, nor any medicine in which there was any preparation of antimony. Antimony is a poison, but it is used occasionally to subdue inflammation, and I applied it to her neck in October last, when she was plagued with a swelling of a gland in her neck. I rubbed it in externally on that occasion, and I have never given her any antimony since. On that occasion

I recommended change of air, and gave her a little bottle of antimony for the same purpose of rubbing in behind the ear. She went to Edinburgh at that time, and she returned to Glasgow very much better; and I have never seen the bottle of antimony since she got it away with her. There was a considerable quantity of antimony in my repositories at the time of my wife's last illness, as I used it extensively in my practice; and the antimony was kept in a cupboard, of which I have the key, but which was not always locked. I did not see any of it brought out, or lying about during her illness. The cupboard where the antimony was is in the consulting-room on the ground flat, and she was so weak on the day of her death—Saturday—and on the Friday preceding, that I do not think she had strength to have gone to that cupboard herself. My wife took the antimony internally on one occasion when she had a tendency to inflammation of the eyelids. This was years ago, and I never knew her to use it internally except on this occasion. I never administered antimony internally to her on any occasion, nor any other substance calculated to injure or destroy life. All which I declare to be truth.

The second declaration, taken the 21st of April, in reference to the charge of the murder of Mrs. Taylor, was to the following effect:—

"I am entirely innocent of the charge referred to. 'I elect to make a voluntary statement in reference to the said last-mentioned charge, and I now declare I was no way accessory to Mrs. Taylor's death; I never administered poison to her; I did and do believe that she died from paralysis and apoplexy; I have no further statement to make, and, by the advice of my agent, will make none, with the exception that I am entirely innocent of the charge preferred against me.'

The Judge having charged the jury, they retired to consider their verdict, and in about an hour came into court with a unanimous verdict of GUILTY of both charges.

The Lord Justice Clerk then sentenced the prisoner to be executed at Glasgow on the 28th ult., and in passing sentence said, that the verdict of the jury proceeded upon evidence which could leave no reasonable doubt on the minds of those by whom it was considered.

The prisoner, who had maintained great composure throughout the five days of the trial, seemed greatly affected when the verdict was pronounced, and leant slightly on the policeman sitting beside him; but while the sentence was being recorded he completely regained his composure, and after sentence was passed upon him he bowed to the judge and also to the jury before leaving the dock.

Since his conviction, the prisoner has confessed his guilt and acknowledged the justice of his sentence. His execution took place at Glasgow on the 28th July, in the presence of about 80,000 persons.

Canada Medical Journal.

MONTREAL, AUGUST, 1865.

THE BEAUPORT ASYLUM.

The boasted privilege of every Englishman is the most unbounded freedom of speech, hence the characteristic of our countrymen is to be honest and out-spoken. It was in the exercise of this acknowledged right, in the last number of our periodical, in reference to matters connected with the Beauport Lunatic Asylum, which has brought on us a storm of abuse from Dr. James Douglas, one of the proprietors of that institution. The Beauport Asylum occupies a somewhat anomalous position. It receives a large amount from Government each year, and is under Government inspection. The patients are nearly, if not altogether, pauper, or at least from that class who have to be supported in this institution at the public cost. Still the asylum is private property, a regular contract existing between the Government and the proprietors of the grounds and buildings, to receive all patients sent to them at so much a head per week. We should like to be informed as to the terms of that contract. Although it may be a contract between the Government and a private individual, we think, as we are called upon to contribute our quota of $67,000, which annually goes into the pockets of the proprietors of that asylum, we ought to have the right of demanding the terms of that contract. We feel certain that had the Toronto Lunatic Asylum been a private speculation, with a contract binding the Government down to certain terms, there would not, at the present day, exist in Upper Canada four other institutions for the relief of those mentally deranged. In the letter of Dr. Douglas, which we publish, it will be seen that he is fully alive to the necessity of having an asylum in the district of Montreal. Coming from such a source, one whose opinion has been looked upon by the Executive as *the* authority *par excellence* in Lower Canada on the subject of insanity, we suppose we may reasonably hope the affair settled, and that in this district we will, before long, see an asylum in progress of erection—one which will not be considered by even the imperial authorities a miserable make-shift, an opinion expressed in the

Imperial paper on Colonial Hospitals and Lunatic Asylums, as applied to the asylum at St. Johns. See page 30: "And they represent that there is a pressing necessity for the erection of a new asylum, with proper grounds, in the western part of the Province, to replace the miserable make-shift at St. Johns."—*Despatch, Sept. 25th*, 1863. Will it be credited, that nearly two years have elapsed since this damning despatch was forwarded by our Government to the Imperial authorities. We say damning, for it is so to the credit, philanthropy, and Christianity of the country.

Two years since the Government of Canada acknowledged in a despatch to the Imperial authorities, who called for information with regard to the public charities of the country, that "at the present time 130 insane persons," in Lower Canada, "are improperly provided for, in gaols and otherwise, and sixty who cannot find any accommodation at all. And yet the same state of things is permitted to continue. No attempt is made at amelioration; the same miserable make-shift at St. Johns is allowed to remain.

The data of the article in our last number, to which Dr. Douglas takes exception, were from the Toronto *Leader*. There can be no doubt that the crowding in the Beauport Asylum must have been a most serious cause of complaint, when we find the following in the Return to an address of the Honorable the Legislative Council, for copies of all correspondence between the Commissioners for the management of the Beauport Lunatic Asylum and the Government, during the last three years.

"11th February, 1865.

"I have this day inspected the Asylum in all its parts, including the two cottages; the total number of inmates being 557 (not including 65 servants). While the asylum continues in its present terribly over-crowded condition, I refrain from any remark, except that such condition is, in my humble opinion, unfair to those who have the superintendence of it, and most unjust to the inmates; for those who might recover their sanity under favourable circumstances as to classification, &c., &c., have no chance here." "Robert Hamilton, *Commissioner*."

And as to the cubic space, there can be no doubt of the fact attested by Mr. A. Lemoine, the Secretary to the Commissioners of the Asylums, as also by the Commissioners themselves, and which must be received by the public so long as it remains uncontradicted.

"Now, many of the single rooms before referred to do not contain one-half of 1,000 cubic feet—some of those contain under 300 feet, and they are occupied by dirty patients."

This is under date 6th July, 1864. We do not think that in this the proprietors are altogether blameable; they have no alternative, they are forced to receive lunatics, who are remaining in the prison houses, or who are at large. We desire to point out the suicidal policy of our Government, the gross wrong done not alone to the inmates of these institutions, but to the whole country. All authorities concur in the opinion, that insanity, to be treated with the hope of success, must be treated early in the attack. It is certainly more than a retrograde step for us in Canada to start a plan of our own, and ignore the experience and teaching of those who have made this subject a study in the mother country. We have before shewn that a poor man in Lower Canada, at least in the District of Montreal, requires from six weeks to six months' experience of prison life in the cells of our common gaol before he can be admitted even into the "miserable make-shift at St. Johns," or into the Beauport Lunatic Asylum. Six weeks' incarceration in these cells, is quite sufficient to drive any sane man mad; the care they receive, the "medical comforts," if any, are not calculated to relieve a patient suffering from an attack of acute mania. In writing this, we do not desire to say one word against the management of our gaol, which we are willing to believe is in every respect a model institution of its kind; we simply wish to intimate that it is not a Lunatic Asylum, and therefore is a place totally unfit to receive persons mentally deranged.

The consequence of this system of *laisser faire*, this do-nothing policy, on the principle as our friend Dr. Douglas suggests, "that he who wishes to sit easy should sit still," is in reality a policy which, laying aside the moral obligations to our fellow beings, is calculated, before many years, of throwing on the country for support a host of incurable cases of insanity: each pauper inmate of the Beauport Asylum costs the country some $3 per week.

In a letter which appeared in the *Quebec Mercury*, under date, 15th July, 1865, Dr. Douglas says, in reference to the article in our last number, "The statements about cubic space are *utter bosh*, and are untrue. The statements about consequent sickness and deaths are equally so." The statements about the cubic space were, that the patients of the Beauport Lunatic Asylum were limited to 300 cubic feet. This is fully borne out by the Reports of the Commissioners; indeed they say some of the cells do not contain 300 cubic feet of space, and that "they are occupied by dirty patients."

In the July number of the American Journal of Insanity, at page 50, in the report of the proceedings of the Association of Medical Superin-

tendents,* we find the following:—"Dr. James Douglas, of Quebec, said, in Quebec they had 566 patients, and 70 attendants, and during the year they consumed 300 tons of coal and 300 cords of wood. *They had 300 cubic feet space to each individual patient.*" If this statement be true, we have then the best evidence, viz. that of Dr. Douglas himself, that the Report of the Commissioners as to cubic space is strictly correct. Further comment is unnecessary. We will leave the facts as they are to be judged of by the impartial reader. We merely allude to this subject in our own justification, as Dr. Douglas has thought proper to give us the lie; adding, that we have suppressed the truth for a consideration.

With reference to the sickness and deaths, we desire to say a few words. The mortality of asylums, as of hospitals, has immediate relation to the character of the cases of diseases admitted, whether acute or chronic. The Provincial Lunatic Asylum at Toronto is in immediate connection with two branch asylums, University and Orillia, where incurable cases are sent from the main asylum, which latter is reserved for the treatment of acute cases. The following table is compiled from the report of the Inspectors for the year 1863:

Name of Asylum.	*Total No. Inmates, 1863.*	*Discharged.*	*Died.*	*Ratio.*
Toronto, University Branch,	582	87	25 = 1	death to $23\frac{7}{25}$
Orillia "	139	3	4 = 1	" $34\frac{3}{4}$
Malden,	249	14	9 = 1	" $27\frac{2}{3}$
Rockwood,	110	8	4 = 1	" $27\frac{1}{2}$
Beauport,	574	30	42 = 1	" $13\frac{2}{3}$
St. Johns,	82	11	9 = 1	" $9\frac{1}{9}$

Thus we find that in the year 1863 the Provincial Lunatic Asylum, at Toronto, with its two branches, had under care and treatment 721 insane persons; of these, 90 were discharged and 29 died. The asylum at Beauport, with a total under treatment and care of 574, discharged 30 and there were 42 deaths. This certainly does appear a large average for an institution which is not devoted exclusively to the treatment of cases of acute mania. We put it in the very mildest way possible; we are not in any way desirous of doing the least injury to either the asylum or its proprietors; but not even for "a consideration" will we suppress truth, or remain silent, when the principles involved are of such moment to the whole country. We do not wish to go further in this matter; we do not

* Nineteenth Annual Meeting of the Association of Medical Superintendents of American Institutions for the Insane, held at the Monongahela House, Pittsburg, Pa., on Tuesday morning, 13th June, 1865.

wish to reproduce the evidence given by Messrs Hamilton, Massue, Painchaud and Lemoine, as touching the cubic space of the Beauport Asylum. The paper is already before the country, and can be examined by all who take an interest in that institution. We go upon the broad principle of right or wrong; and if the Government continue the policy of allowing things to remain as at present, we with others cry out, shame—an opinion which has been expressed in the Imperial paper on Colonial Hospitals and Asylums before alluded to.

Quebec Lunatic Asylum, 20th July, 1865.

GENTLEMEN,—I do not complain that the Quebec Lunatic Asylum, like all other public institutions, should be subject to public comment: but I have reason to complain that any public print should be made a "Ductus communis choledochus."

The object of your article, headed a "A Lunatic Asylum," seems to urge the necessity of one in Montreal. Few who know anything of the Statistics of Insanity in this section of the Province will differ with you in this opinion.

You say, you have given this subject your attention for years. Now, are you aware that when in 1845, the Asylum in Quebec was first established, the Government endeavoured to have one established in Montreal on a similar plan? Dr. Mount, and some other medical gentlemen, accepted the proposal, but after considerable delay abandoned the scheme as attended with too great risk of loss, and the patients from Montreal were consequently sent down to Quebec.

"Are you aware, that when eight years ago the buildings of Quebec Lunatic Asylum were insufficient to meet the increasing demand for accommodation—the proprietors, instead of enlarging them, recommended to Government the erection of another asylum in Montreal? This being declined, (I suppose on the principle that he who sits easy, should sit still,) the proprietors enlarged their buildings. Are you aware that, two years ago, the demand for increased accommodation being urgent, application was again made to Government for an asylum in the District of Montreal? Government (in my opinion) very wisely declined to adopt the views of those who thought that private or college buildings could be turned into Lunatic Asylums, and induced the proprietors of Quebec Lunatic Asylum to erect a new separate building, capable of affording accommodation and ample cubic space to three hundred patients and their attendants. The two buildings will now afford room for seven hundred and fifty patients; even this, in a very few years, will be found insufficient for the wants of the Lower Province; and I think now, as I have always done, that an asylum should be erected in the district of Montreal. Besides the cubic space, there are many other matters connected with the Quebec Lunatic Asylum with which, notwithstanding your assertion to the contrary, you are profoundly ignorant, and of which you ought in my opinion to lose no time in obtaining reliable information; in this, however, you will do as you deem fit. There is one matter parti-

cularly personal to you and to me, and to which I can lose no time in calling your particular attention. You have thought fit to hold me up to the public as a wholesale murderer, for the basest and the most unworthy motives. I leave out of the question Drs. Morrin and Fremont, who are no more, and Dr Landry who is at this time absent. Now, Gentlemen, you know as little of me and of my character as you do of the Quebec Lunatic Asylum, if you imagine for one moment that I will allow you or any one to charge either them or me with anything disgraceful or unworthy of gentlemen and Christian men. I therefore call upon you to give up the name of the person to whom you are indebted for your information, so that I may deal with him as is proper.

In other matters connected with Quebec Lunatic Asylum, permit me to urge you to visit it for the purpose of obtaining a personal knowledge of its conduct and management.

Yours truly,

Drs. Fenwick and Campbell, &c. &c. J. DOUGLAS.

A HEALTH OFFICER.

Frequently since the commencement of our Journal, we have written strongly and urgently upon the necessity which has long existed for a thorough cleansing of our city, which, as a rule, is, we unhesitatingly affirm, in a condition of filth, which is simply disgraceful. We have also stated our opinion that the appointment of a health officer was emphatically demanded; and we proved to the satisfaction of every one who took the pains to *think*, that our mortality was far larger than it would be were that attention paid to sanitary arrangements which the appointment of a responsible health officer would, we believe, entail. But our words fell unheeded upon the ears of the authorities, especially the Health Committee, who have had the unenviable notoriety of not having a legal meeting for a time, which twelve months would not cover. Months have passed away, and now we hear that Cholera is travelling the course which it has in times past, and that ere a great while, in all probability, it will be in our midst spreading death and desolation on every side. At last the Health Committee, after great exertion by its energetic chairman—aroused by a sense of the impending danger—has met, and taken the advice of our medical men; but strange to say, we yet do not find anything like that activity which the position of affairs demand. On every side of us, filth and abomination abound; and not later than the 12th of this month, in one of our streets through which passes probably as much traffic as any in the city, in the midst of a dense population, there exists on one side of the street, a narrow pool of foul water covered with a thick yellow scum—a pool that would do credit to the finest

frog pond in the country. And we feel sure it will astonish our readers when we state, that it has existed for upwards of a week under the very nose of the athorities. Spasmodic fits of sanitary arrangement are useless. What we want is, the adoption of arrangements which in other cities have proved beneficial, and succeeded in reducing their mortality fully ten per cent. No time should be lost; Montreal cannot be cleansed in a week, and our City Council will occupy a most unenviable position if they neglect to do their duty—for their duty it certainly is. We would ask our readers in every section of Canada to bring under the notice of the proper authorities the sanitary condition of their localities—so that, when cholera does come, as come we believe it certainly will—Canada may be found in such a condition, that it will pass us by almost scathless.

COLLEGE OF PHYSICIANS AND SURGEONS OF LOWER CANADA.

THREE RIVERS, 12th July, 1865.

In conformity with a resolution, passed at the last triennial meeting, held at Melbourne, C. E., on the 9th July, 1862, the present triennial meeting was held this day, at the Court House, in the town of Three Rivers, when were present: Drs. Marsden, A. Fenwick, G. E. Fenwick, Blanchet, Russell, Howard, Boyer, Gilbert, Scott, Hingston, Jackson, Landry, Smallwood, Chamberlin, Tassé, Foster, Weilbrenner, Robillard, Wolff, Marmette, Munro, Dubé, Robitaille, Rinfret, Tétu, Dufresne, F. W. Campbell, Gibson, Ross, Garneau, O'Leary, Trestler, Brigham, Tessier, Lavoie, Badeau, Hamilton, Laskine, and Peltier. Dr. Marsden, the President of the College, took the chair.

Dr. Peltier, one of the secretaries, read the minutes of the last triennial meeting, which were, on motion of Dr. Jackson, seconded by Dr. A. Fenwick, approved.

Dr. Marsden read a minute, elaborate, and most interesting report of the proceedings of the College during the past three years, which, on motion by Dr. Smallwood, and seconded by Dr. Trestler, was unanimously adopted and recommended to be published.

A letter from Dr. Sewell, of Quebec, was read, bearing upon the licensing, without examination, of a Dr Anderson, of Quebec, who presented to the Board simply a diploma of the College of Surgeons, Edinburgh. Dr. Sewell's object was only to call the attention of the College to the fact of its having done what it had no right to do, for otherwise he knew nobody more worthy of any professional honour than Dr. Anderson.

Before proceeding further with the general business of the College, all candidates for membership were severally called, balloted for, and the following gentlemen were unanimously elected members of the College:

Dr. T. Robitaille, M.P.P., of Bonaventure, proposed by Drs. Russell and Landry. Dr. P. Beaubien, of Montreal, proposed by Drs. Peltier and Boyer; Dr. L. E. Landry, of Beauceour, proposed by Drs. Smith and Badeau; Dr. J. Charbonneau, of St. Paul l'Ermite, proposed by Drs. Peltier and Boyer; Dr. J. P. Rottot, of Montreal, proposed by Drs.

Peltier and Bibaud; Dr. L. E. Bardy, of Quebec, proposed by Drs. Tessier and Blanchet; Dr. P. Cadieux, of Sorel, proposed by Drs. Robillard and Trestler; Dr. R. M. Mignault, of Yamaska, proposed by Drs. Robillard and Dufresne; Dr. P. Giroux, of Three Rivers, proposed by Drs. Badeau and O'Leary.

It was then moved by Dr. Russell, seconded by Dr. Smallwood, and carried, "That the question of the bearers of diplomas from British Colleges or Universities be referred to the October meeeting of the Board, and to be then finally decided upon."

Drs. Chamberlin and Smallwood presented their report as auditors, named at a previous meeting of the Board:

"Supplementary report of the undersigned auditors, named to examine and report upon the treasurer's accounts of the College of Physicians and Surgeons of Lower Canada"—Beg leave to report that they have examined the whole of the accounts and vouchers, up to the present date, and have found them correct, and, in accordance with a former recommendation, would suggest that, for the future, two distinct books of accounts be kept, viz., an account of all moneys accruing from candidate's licenses, with the amount paid out for the travelling expenses of members, and another and distinct account showing the amount received from all other sources, with the actual items of expenditure for all purposes, and that these two accounts be kept in as a distinct and separate form as possible.

In furtherance of these views, your Committee have, up to the present time, separated these distinct items of amount, as found upon the treasurer's books, and find that there has been received during the past three years, from candidates' licenses alone, the sum of four hundred and twenty pounds (£420), and that there has been paid to members for travelling expenses, the sum of two hundred and twenty pounds (£220), leaving a balance of two hundred pounds (£200). This sum they recommend should now be entered upon a separate book kept for that purpose, as a distinct item destined by the law for a special purpose.

They further beg to report that the amount received from all other sources, and, having examined the various items of expenditure, as per vouchers, for a like period, leave a balance of two hundred and seventy-eight pounds, thirteen shillings and eight pence (£278,13,8). This amount your Committee would also recommend should be kept as a separate account, in a book for that purpose.

The bank book shows a sum total in deposit of four hundred and seventy-eight pounds, thirteen shillings, and eight pence (£478 13s, 8d), which your Committee, upon examination, find correct with the above report of the treasurer's accounts.

The whole of which is humbly submitted. (Signed) J. Chamberlin, M.D., Ch. Smallwood, M.D., Auditors.

It was then moved by Dr. Brigham, seconded by Dr. G. Fenwick, and carried, "That said auditors report be received and adopted."

The Benevolent Fund question having been brought forward, it was decided that no action should be taken on it, that it should be left to the next Board, as Parliament was not in session.

Dr. Gilbert proposed, seconded by Dr. Brigham, "That Drs. Fenwick

and F.W. Campbell, editors of the 'Canada Medical Journal,' be requested to publish the report of the College in the journal, and that they also have 100 copies printed in pamphlet form, fifty being sent to each of the secretaries for distribution amongst the members of the College, and that they be requested to have it translated into French, and have 100 copies of it printed, the whole to be paid for by the College. This motion was carried.

Dr. Howard read, in English, the report of the commission for the formation of a class of Fellows in the College.

Dr. Robillard read it in French.

The question was discussed, clause by clause, many members taking part in the discussion, expressing their views, so as to come to a final understanding, Drs. Howard, Beaubien, Landry, Munro, Hingston, Gilbert, Trestler, Robillard, being the principal speakers. Some few alterations in the wording were proposed and made accordingly.

It was then moved by Dr. Smallwood, seconded by Dr. Howard, "That the report of the commission upon Fellows, with the amendments made thereto to-day, be received, and that its future consideration be postponed until the next semi-annual meeting of the governors. Motion carried.

The proposed amendments to the by-laws, published already in conformity to the Statutes, were then discussed.

It was proposed by Dr. Landry, seconded by Dr. Russell, and carried, "That the 4th clause in the chapter concerning 'members' be amended as follows: "That no member of the College can be eligible as governor or vote for the election of Board of Governors unless he shall have paid all his dues to the College.

On motion of Dr. Landry, seconded by Dr. Beaubien, it was proposed "That the future president and secretaries be requested to alter the evident contradiction existing between the statutes and by-laws of our college, and the fact of our exacting $15 from candidates for license, when the law seems to fix the sum at $10. After discussion on the matter, Dr. Landry consented to amend his motion so that $5 for parchment be added to the $10—which was carried unanimously.

The amendments to the by-laws, as amended, were then put to the vote, and were unanimously carried, and left to the president for the immediate sanction of His Excellency the Governor General.

On motion of Dr. Russell, seconded by Dr. Blanchet, it was resolved and unanimously carried, "That the next triennial meeting shall be held in the town of Three Rivers."

The general business of the College being gone through, the meeting then proceeded to the election of the new Board of Governors, composed of thirty-six members.

The President called for the proxies, of which a number of members were the bearers, and of which the following is a list:—Drs. G. W. Campbell, Sutherland, Craik, Taylor, Wright, McCallum, Fraser, all of Montreal, by Dr. W. E. Scott. Drs. Trudel, Coderre, of Montreal, Dr. Turcotte, St. Hyacinthe, by Dr. Peltier. Drs. Charest, Beauport, Dr. Michaud, Kamouraska, by Dr. Blanchet. Dr. Bibaud, Montreal, by

Dr. Dufresne. Drs. Goldstone, Moffatt, Reed, Forrest, of Quebec, by Dr. Marsden. Dr. Boudreau, Baie St. Paul, Dr. Bacon, Trois Pistoles, by Dr. Landry. Dr. J. Russell, Toronto, by Dr. R. H. Russell. Dr. Sewell, Quebec, by Dr. Jackson. Dr. Von Iffland, Grosse Isle, by Dr. Marmette. Dr. Bardy, Quebec, by Dr. Tessier. Dr. Ch. Brown Dunham, by Dr. Chamberlin. Dr. Somers, Lake Magog, Worthington, Sherbrooke, by Dr. Gilbert.

The President then named the following gentlemen to act as scrutineers: Drs. Jackson, Weilbrenner, R. H. Russell, A. Fenwick, Smallwood.

The meeting adjourned for some time to enable the scrutineers to discharge their task without interruption, and met again at 3 p. m., when the president declared the following gentlemen elected governors for the next three years, viz: For the city of Montreal, Drs. Peltier, Howard, Scott, G. E. Fenwick, Boyer, Rottot, Robillard, Smallwood.

District of Montreal: Drs. Weilbrenner, Dufresne, Tassé, Chamberlin, Gibson, Brigham, Charbonneau.

District of St. Francis: Drs. Gilbert, Worthington, Hamilton.

District of Three Rivers: Drs. A. Fenwick, Badeau, Ross.

City of Quebec: Drs. Landry, Blanchet, Russell, Jackson, Tessier, Robitaille, Marsden, Sewell.

District of Quebec: Drs. Michaud, Marmette, Dubé, Boudreau, Tétu, Lavoie, Von Iffland.

The result of the election being declared, the meeting adjourned and the newly elected governors met to elect their officers.

Dr. Marsden, whose term of office expired, addressed the meeting, and in a few and very appropriate remarks returned thanks to them for the cordial support which he always received from them whilst occupying the presidential chair, and hoped his successor would be similarly treated.

It was then moved by Dr. Smallwood, seconded by Dr. Chamberlin, and carried: "That the thanks of the College are due and are hereby tendered to Dr. Marsden for his able and assiduous conduct as president during the past three years." The meeting was then called upon to vote for a president, Dr. A. Fenwick acting as scrutineer, when Dr. Chamberlin, having a large majority of votes in his favour, was declared the president of the College, and of the Board of Governors.

The president newly elected, took the chair, and in a few words returned thanks for the honour conferred.

The voting for two vice-presidents took place, and Dr. Landry for the District of Quebec, and Scott, a second time, for the District of Montreal, were duly declared elected, there being a very large majority in their favour.

Drs. Peltier and Russell were unanimously re-elected secretaries for the Districts of Montreal and Quebec.

Dr. Boyer was elected by a large majority, registrar and treasurer of the College.

The meeting then adjourned to meet in Three Rivers on the second Wednesday in July, 1868.

HECTOR PELTIER, M.D., Sec. for the District of Montreal.

CANADA

MEDICAL JOURNAL.

ORIGINAL COMMUNICATIONS.

On the use of Digitalis as a Cardiac Tonic, with an illustrative case.—By Walter James Henry, M.D., Belleville, Canada West.

The following case tends to confirm the opinion entertained by many late writers as to the use of digitalis. Dr Fuller, the ablest supporter of the recent view, asserts "that when the pulse is feeble and irregular, digitalis is of all remedies the most useful," and that the drug stimulates the muscular tissue of the heart while at the same time moderating its action.

On the 18th of July I was requested to see Mrs. M. of Trenton in consultation with Dr. Lister. The history of the case made mention of repeated attacks of rheumatism several of which were attended by cardiac complication. This summer, when far advanced in pregnancy, anasarca came on, and though relieved for a time by means of diuretics and purgatives, proved extremely troublesome. It continued after the birth of her child. Shortly after her confinement a few days ago, a frightful attack of cardiac asthma with extreme faintness and coldness of the extremities was only relieved by free stimulation and counter irritation over the heart; a second attack had been partially relieved, but the following is a picture of her condition when first seen by me.

A thin, pale, delicate looking woman was propped up by pillows in a rocking chair. She was sitting with the shoulders elevated, stooping forwards. The face had a most anxious weary expression, the eyes slightly prominent. There was a slight lividity of the lips and a change of colour in the finger-nails. Respiration was laboured and uneasy, all the accessory muscles appearing in action. She could only speak in a whispered broken manner, with a gasp between each word. From the long continued distress in breathing, the fatigue was so great that her head would occasionally fall forward on her chest in an uneasy sleep, from which some increase in the dyspnœa would waken her.

The hands were cold and covered with clammy perspiration. The pulse was almost imperceptible in the right side, weak in the extreme when felt and at the same time extremely rapid. It was ascertained to beat 135 in the minute, and was irregular. It could not be felt on the left side for some time. The legs were enormously swelled, and pitted deeply on pressure. Over the dorsum of the foot and at the instep deep lived stains appeared on the skin.

The great dyspnœa prevented a very accurate examination of the chest being made, but the following facts were made out. The left side of the chest was more prominent than the right, and this prominence was greatest in the cardiac region. The heart appeared to beat lower down than usual, and its impulse was noticed over a more extended surface. Palpation detected valvular thrill and peculiar heaving impulse. A loud systolic bruit, was very plainly heard, and was loudest near the apex. It was noticed as remarkable at the time that such a disproportionate impulse existed with a weak and irregular pulse.

The physical signs pointed to disease of the mitral valve with regurgitation, and consequent dilated hypertrophy of the left ventricle.

The kidneys had not been acting very freely, but the urine was free from albumen. The bowels had been acted on by medicine. The tongue was slightly coated, but of a deeper colour than natural, and inclining to purple.

There was not much pain complained of. It was chiefly muscular, and referred to the back and shoulders. The dyspnœa appeared to engross her thoughts, and take up all her attention. In fact, her friends were hourly looking forward to her death, as the breathing had become more laboured towards evening.

At my suggestion twenty drops of the tincture of digitalis with the same quantity of the tincture of muriate of iron were given every hour. I sat up with her to superintend the treatment during the night. Beef tea and brandy were given every half hour in small quantities as some dysphagia existed.

After four doses of the digitalis had been given, there appeared to be intermissions in the very feeble pulse. The breathing became less rapid, and an attempt at a si_h was now and then made. But she complained of the hands becoming extremely cold, and looked even more exhausted than before. Recognising the effect of the digitalis, it was suspended for two hours, during which brandy was very freely given, and the tincture of the muriate of iron was administered as before. The digitalis was then resumed, and given steadily till morning with the food and stimulant.

At eight o'clock in the morning a very decided change for the better was noticed. She could sit up straight in the chair instead of crouching forward. Her breathing was much relieved, and the shoulders did not move as before. The pulse had fallen to 120, and every beat was marked and perceptible. It was now felt without difficulty in the left arm. The eyes appeared to have a brighter expression, and the lips were less livid.

It appeared on looking at the bottles that four drachms of the tincture of digitalis had been given during the night, and a little more than that quantity of the tincture of muriate of iron. As only ten doses of the digitalis had been given, the twenty drops in each dose must have contained twenty-four minims.

The dose of digitalis was now given only every three hours during the day (19th,) still combined with the muriated tincture. Eggs and milk were now given to relieve the monotony of the beef tea. In the evening she was found resting her head on the pillow with a stronger and slower pulse. Each dose of digitalis produced a feeling of drowsiness. A number of fine punctures were made in both legs with a small needle, and warm flannels applied. A quantity of fluid drained away from these punctures during the night.

20th. Has slept comfortably in her chair. Pulse 110; regular and without intermission. The digitalis was now given only every six hours, and the muriated tincture of iron discontinued.

The strength now seemed sufficiently restored to admit of purgatives, and two drops of Croton oil were given and followed up by several doses of bitartrate of potash.

22nd. Swelling very much reduced in the extremities. Breathing very much easier. Has slept well during the night. The dose of digitalis was now reduced to ten drops.

23rd. Slept in her bed last night very comfortably. The bitartrate of potash is still kept up every three hours, and is acting well on the kidneys.

There is a still greater diminution in the swelling of the legs.

It is unnecessary to chronicle the further progress of the case. A febrile attack was subsequently relieved, and from that date convalescence was steady. On the 5th August she had been walking in the open air.

An examination of the heart made on the 31st July, revealed the following condition:—INSPECTION. Undue bulging in the cardiac region. Heart's apex beat opposite sixth rib. Impulse perceptible to the eye over more extended surface.—*Percussion.* Superficial dulness more extended in transverse direction.—*Palpitation.* Valvular thrill well marked—Impulsion rather heaving.

Auscultation. Systolic bruit, rough in character heard very plainly over precordial region—louder towards apex and left side—becomes indistinct towards base, but is heard. The pulse was now between seventy and eighty. It was of good volume, and there were no intermissions, but some of the beats were much stronger than others.

Remarks.—In the *Medical Times* and *Gazette* of December 13th, 1862, a case is reported which was under the care of Dr. Handfield Jones, of St. Mary's Hospital, where the combination of digitalis with iron proved useful. I borrowed from the record of his cases the treatment which proved so serviceable in that just described.

The change which a few hours' treatment made in the pulse was remarkable. From being weak, extremely rapid and irregular, it became defined, full and increased in strength and regularity in twenty-four hours. The greatest effect, however, was upon the respiration—and this may be accounted for by the digitalis reducing indirectly the congestion of the lung on which the dyspnœa depended.

The stimulants had no effect upon the head, and the muriated tincture, though given in such continued doses, only occasioned slight headache on the day that it was discontinued.

Belleville, August 17th, 1865.

Case of Fracture of the Larynx complicated by Œdema Glottidis. Tracheotomy. Recovery. By Donald Maclean, M.D., L.R.C.S.E. Professor of the Institute of Medicine, and Lecturer on Clinical Surgery, Queen's Universiy.

On the 15th of June, I was called to see the following case:

Wm. Rancier, a farmer, aged 32, married. When first seen was propped up in bed in a sitting posture, unable to articulate or perform the act of deglutition, bloody saliva trickling from his mouth, expression of countenance extremely anxious, respiration difficult and stertorous, face, neck, head and upper part of thorax distended by emphysema, pulse feeble and extremities cold. In reply to my enquiries the following statements were received. Patient had been chasing a dog out of his way while at work in the woods, and while running after the dog and in the act of throwing a stick at it, tripped and fell forward striking his neck with great violence against a stump, the height of which was sufficient to prevent his hands from reaching the ground.

Making a strong effort, he sprang to his feet and attempted to recover his breath, but he found it impossible to take a full inspiration. On putting his hand to his throat he discovered that it was much swollen, and

that the swelling was extending rapidly upwards over the face and back of the head. At the same time blood began to flow pretty freely from his mouth.

All these circumstances conspired to alarm him very much, still with the assisstance of a man who had been working with him he walked to his house a distance of about two hundred yards. A messenger was at once dispatched for medical aid, and about twelve hours after the accident, I arrived at the patient's residence (which is about twenty miles distant) and found him in the condition I have already described.

On proceeding to manipulate the parts there was no difficulty in discovering that the thyroid cartilage (at least) was fractured, the pomum adami was absent, and crepitus could be distinctly felt; over and above the crepitation of the emphysema, and by pressing on the left ala of the thyroid cartilage, respiration was entirely arrested, and acute pain felt. At this time I was of opinion that the cricoid cartilage also was fractured, but at subsequent examinations could never detect the abnormal prominence which on this occasion I supposed to have been produced by fracture of the cricoid. The emphysematous and otherwise unnatural state of the parts of course rendered precise manipulation impossible.

For the same reason I found it impossible to discover the exact extent and direction of the fracture of the thyroid.

At this time there appeared to be very little in the way of treatment, necessary or admissible. I attempted to restore the thyroid cartilage to its natural position and form, but with only very partial success.

A bandage was applied pretty firmly around the neck with the effect of facilitating respiration to some extent, and enemata were ordered, first laxative and afterwards nutritive. At an early hour, on the morning of the 16th I left him with instructions to keep me informed as to his progress.

On the 17th a very unfavourable report was received in consequence of which I revisited him early on the 18th, provided with a conveyance suitable for transporting him to Kingston. On this occasion I found him very much changed for the worse, respiration laboured and painful, pulse small and irregular, countenance intensely anxious and haggard, he had not slept since the accident occurred, nor had he attempted to swallow anything since my previous visit; his whole body was bathed in a cold clammy sweat, and altogether he appeared to be in immediate danger of sinking. On making the attempt he found that deglutition could now be performed with comparative ease and comfort, consequently a mixture of brandy and milk was freely administered with the effect of very rapidly improving his condition.

I now proposed his immediate removal to Kingston where his urgent case could receive the close attention which it required. On explaining to the patient and his friends my reasons for desiring his removal, they gladly conceded, and immediate preparations were made accordingly.

Patient complained somewhat of the shaking of the carriage, but on the whole he stood the journey well. He partook of brandy and milk and tea several times on the way, and on his arrival here stated that he felt stronger and better than when he left home.

On Monday and Tuesday (19th and 20th) patient complained a good deal of sleeplessness, in fact he had hardly slept at all since the accident occurred; otherwise everything seemed to be going on well.

On Tuesday night he became restless and anxious, complained of difficulty of breathing and pain in the neighbourhood of the larynx. He walked about the room nearly the whole of the night, and at daylight on Wednesday morning became suddenly much alarmed by the rapidly increasing dyspnœa, and what he described himself as "a sinking feeling." At this time he stated to me his conviction that he had not many hours to live—a conviction which I found it impossible altogether to remove.

At ten a.m., Dr. Dickson saw the case with me, and several unsuccessful efforts were made to obtain a view of the rima glottidis; the most cautious manipulation inducing violent reflex action.

The power of deglutition, though impaired, was not altogether lost, and fluid food, and stimulants were freely administered.

At 8 p.m., the dypsnœa had become very distressing, and it was evident that unless relief could be afforded in some way, very soon the man would die asphyxiated.

Dr. Dickson now revisited the case with me, and at last succeeded in obtaining a satisfactory view of the fauces and upper part of the windpipe, when it was seen that the glottis was all but occluded by œdema.

The course was now quite clear, and I proceeded at once to perform the operation of tracheotomy. It would indeed be difficult to imagine a more unfavourable case for the operation. Between emphysema and exudation, the trachea was very deep, the veins of the neck were of course distended to their utmost capacity, and the patient was struggling violently for air.

Having cut into the trachea and introduced the largest sized tracheotomy tube, we were disapointed to find that no air passed into the lungs, from which it was feared that an insurmountable obstacle existed lower down.

The case now appeared desperate, and the man was on the point of

dying asphyxiated, when I seized a silver male catheter and at once passed it into the trachea and beyond the obstruction with the immediate effect of affording the patient an adequate supply of air.

I subsequently prolonged the incisions downwards, and introduced the tracheotomy tube, which now worked quite satisfactorily.

The tube having been tied in the usual way, and the patient comfortably propped up in the large arm chair in which the operation was performed, he fell into a sound and natural sleep for more than seven hours; this was the first good sleep he had had since the receipt of the injury.

Up to this time indeed he had never been asleep for more than five minutes at one time, and very seldom even for this short period.

On the morning of the 21st he felt, comparatively speaking, very well. Respiration was performed with perfect ease, the fear of impending dissolution no longer oppressed him, and he was able to partake freely of food and stimulants. Nevertheless, there was an evident tendency towards sinking, the pulse did not respond to the stimulants which were administered with the utmost liberality. He slept a great deal, and was frequently suffused with a cold sweat.

This critical condition, lasted for two days, after which he gradually recovered his strength. The emphysema disappeared and the neck and face resumed their normal appearance. On Saturday June 29th, I removed the tube, and stitched up the wound with metallic sutures. Since then the patient has been working in his harvest field, and when last seen (a week ago) was in perfect health.

Fracture of the cartilages of the larynx is extremely rare, still a few well authenticated cases have been recorded by M. M. Sodoly, Oliver, Margolin, Plenck, Morgagni, Remer, and Dr. Frank H. Hamilton of New York.

In all these cases the effects of the injury were either so slight as to require no surgical interference or else so serious as to be fatal.

Dr. Hamilton's case is, so far as I am aware, the only one in which tracheotomy was performed; in this and in several other respects the most striking resemblance will be observed between that case and the one I have just described.

The principal difference between the two cases consists in the fact that Dr. Hamilton's case died of exhaustion seventy-two hours after this accident, and thirty-four after the operation. (Hamilton on Fractures and Dislocations, page 135.)

Kingston, August, 1865.

A case of *Perineal Thrombus, following labour.* By DeWitt H. Martyn, M.D., University of Toronto.

I am induced to publish the following case, because I believe it to be of very rare occurrence; I have been engaged in an active country practice for five years, and this is the first case of the kind with which I have met; I have never heard of one, nor can I find any account of such a case in any of the medical works to which I have access.

On Sunday, the 16th of July, 1865, I was called to visit Mrs. J. McT., about ten miles from town: I arrived there about one o'clock, p.m., and found her suffering intensely from pain which she referred to the perineum. The history which I received of the case was as follows:

She had been delivered of a healthy male child, at about 4 o'clock, a.m., after, as the old women said who had been with her, a very fair average labour of about five hours' duration, though she had been suffering from slight labour pains for a couple of days before. About twenty minutes or half an hour after the completion of the labour, she complained of very severe, sharp pain in the perineum, about midway between the anus and fourchette of the labii pudendi and immediately to the left of the medial line; upon feeling with her hand, a small, sound tumour was found in this locality, about the size, when first observed, of a robin's egg; this swelling rapidly increased in size, and the pain in intensity. Upon making an examination, soon after my arrival, I found the swelling as large, I should think, as the head of the child, occupying the whole of the left labium, as high, nearly, as the pubis, closing the vagina and anus, and forcing the left wall of the vagina over against the right wall of the pelvis; I could not reach past the tumour either per vaginam or per anum; per anum a small artery could be felt pulsating across the tumour; the pain had somewhat subsided, and the tumour was not swelling so rapidly as it had done; the woman had made water plentifully, but with considerable difficulty owing to the pressure of the tumour on the urethra.

As I had never heard of or seen a similar post-partum occurrence, I deemed it advisable to have another opinion, and therefore at once despatched a messenger to Kincardine for Dr. H. M. Ross; giving the patient in the meantime, pretty free doses of Dover's powder and acetate of lead, for the purpose of relieving the pain, and because I suspected that the tumour arose from extravasated blood.

By the time of Dr. R's arrival (whom I found quite as ignorant on the subject as myself), the swelling had, by its colour, &c., clearly declared itself to be the result of extravasated blood. We did not deem

it advisable to open the tumour at that time lest we should renew the bleeding, for the swelling had now ceased to increase; we therefore applied pressure, by means of the T bandage, with astringent lotions, and cold applications, giving at the same time Dover's powder with acetate of lead. With the exception of the tumour, the woman was in as good health as could be expected or wished for under the circumstances.

On Wednesday, the 19th, Dr. R. and myself again visited Mrs. McT. and found the tumour somewhat smaller than when we left on Sunday. We decided that it should be opened, and I accordingly opened it by means of a sharp pointed curved bistoury, making a cut between four and five inches in length, over the most prominent part of the swelling: the sensibility of the skin was so completely destroyed that the patient did not feel the knife at all, except when dividing about one half an inch at one extremity of the cut; and where I first entered the instrument there appeared to be no more than the cuticle between my hand and the clot, which was found very firm. A probe, being introduced through the clot, from about the middle of the cut towards the centre of the upper strait of the pelvis, passed freely up for about five inches, and latterally it passed about two to three inches, which will give some idea of the enormous size of the tumour.

No further local treatment was necessary, except warm water dressings and poultices, and the woman's general health was so good that systemic treatment was quite needless.

I have heard from the patient frequently since, the last time being August 29th, and she has been steadily progressing towards a cure. The wound is now very nearly healed. There has been no bleeding, nor, so far as I can learn, a single bad symptom.

The woman's age is about twenty-four; this was her first pregnancy, and a head presentation.

I think there can be no reasonable doubt that this tumour was the result of the rupture of one or more of the small vessels forming the vaginal plexus of veins, but what may have been the cause of this rupture does not seem, to my mind, quite so clear; my opinion is, that it was caused by the pressure of the child's head on a, perhaps, already weakened vein.

Kincardine, County of Bruce, August 30th, 1865.

A simple mode of examining the Fundus Oculi. By A. M. Roseburgh, M.D., Toronto, C. W.

I find that the fundus of the eye can be examined without the mirror of the ophthalmoscope as follows: The lamp is placed on a table in a darkened room. The patient is seated on a chair two or three feet from the table, and facing the light. The chair of the observer is placed with the back against the table and between the patient and the lamp. When the surgeon is seated, the lamp should be immediately behind the right shoulder and very nearly on a level with the eye. By now bringing the right eye in a line with the lamp and the eye of the patient, but so as not to shade it, if the pupil had been previously dilated with atropine—the fundus is seen to be illuminated. In order to see the details of the posterior internal surface of the eye, a lens of about two inches focus is placed within an inch or two inches of the eye under examination. An inverted image of the fundus can now be seen forming an aerial image about two inches in front of the lens.

The optic nerve entrance and the radiations of the retinal vessels can be seen by directing the patient to look at the light or two or three inches farther from the surgeon's eye, but in the same horizontal line.

Toronto, September 1st, 1865.

HOSPITAL REPORTS.

Two cases of Epilepsy; occurring at the Montreal Dispensary. Under care of Dr. Francis W. Campbell.

W. D——, a youth of 17 years, presented himself at the Montreal Dispensary, on the 2nd of May, 1865, stating that he was the subject of epileptic fits. For several years he was addicted to the vice of masturbation, but for a year past he asserts he had given it over. He has a low forehead, and a very dogged expression. The fits first came on about four years ago—appearing once in three weeks. He several times sought medical treatment, but he continued to grow worse. About six months ago—they attacked him once every four days; and so continued up till the day he presented himself at the Dispensary. I ordered him to take a tablespoonful of the following mixture three times daily ℞ zinci sulph gr viii fld ext. belladonna ʒ ii aquae ad ℥ viii.

May 15th. Fits have occurred with the same frequency, and had one to-day—also complaining of feeling dull and stupid. I stopped the sul-

phate of zinc and belladonna, and ordered him a mixture containing in each dose, four grains of the bromide of potassium. This he was to take four times a day.

May 22nd. Patient returned to Dispensary to-day feeling and looking somewhat better. States that he has not had any fits since the 14th. Yesterday about noon he felt as if he would be attacked, but it passed away.

May 30th. Had a very slight fit this noon, being the first since the 14th; did not feel nearly so dull and sleepy after it as usual; still to continue the bromide of potassium. Ordered six grains four times a day.

June 19th. The patient reports to day that he had a slight fit yesterday afternoon, and one this morning—but is confident he is improving. The people he lives with, says when he took the fit yesterday that he was hardly convulsed at all.

July 31st. Since the date of last note the patient has presented himself several times at the Dispensary—each time with a more favourable report. He has improved greatly in appearance—eyes brighter and expressive not so downcast, as when first seen on the 2nd of May. He has not had a fit since the 19th of June—a period of forty-two days. He was to leave Montreal the same afternoon for New York in search of employment. I accordingly gave him the prescription, increasing the bromide of potassium to eight grains four times a day. From this date, of course, I had lost all trace of my patient.

Susan Tucker, aged 23—a tall girl—of a somewhat nervous temperament came to the Dispensary on the 10th May, 1865. The symptoms described by herself and a friend who accompanied her, were those of epilepsy. None of her family were subject to it. She was attacked with the first fit quite suddenly about a year and a half previous to date, it being very severe. Eight months elapsed ere another occurred, when they came on very frequently, sometimes having as many as seven in one day. She sought relief from a physician in the city, and received much benefit from treatment. On the 24th of April, 1865, she was married to a soldier, not having had any relapse for five months—but the day after her marriage, had a fit—and one, sometimes two daily—till her application at the Dispensary. Believing the cause to be uterine, I gave her some advice, and prescribed the following mixture: ℞ zinci sulph gr viii fld ext. belladonna ʒ ii aquæ ad ℥ viii. Take a tablespoonful three times a day.

May 22nd. She returned to-day. Has not had any attack since the 13th. Had one also on the 11th.

June 7th. Reported at the Dispensary to-day that there has not been any return of the attacks.

August 12th. Met the patient in the street to-day. Still remains quite well. These two brief hospital reports are interesting, as showing the results of two opposite modes of treating the same disease. Had the cause of the attacks in the latter case been as obscure as it usually is, I am doubtful if the zinc and belladonna would have suited. My experience—not alone personal, of the benefits from these drugs—in epilepsy—is not of the most favourable kind. I may observe that both patients when first attacked had distinct premonitions of an attack—but in a brief period it ceased to appear, and the patient suddenly and without warning became unconscious.

Case of Clonic Convulsions. Reported by JOHN BELL, M.A. Acting assistant house Surgeon and Apothecary to the Montreal General Hospital.

Charles Allen, a barber, aged 19, a native of New York, was admitted into the Montreal General Hospital under care of Dr. Scott, on the 14th August, 1865, while suffering from severe epileptiform convulsions. When he entered the Hospital he was in a state of complete insensibility, breathing laboriously but not stertorously. Pupils much contracted. While waiting to be sent up to his ward, he was seized with a violent convulsion which affected both sides of the body symmetrically, and threw the whole of the muscles of the face, including those of the eyelids, into violent jerking spasms. The man who brought him stated this to be the sixteenth fit he had within the last three hours, the first one occurring at 2 a.m., when the patient was seen by Dr. F. W. Campbell. Between the convulsions he lay still and insensible, with the exception of a jerking motion of the eyelids. At half past six a.m., when he entered the hospital, ol tiglii gtt. ij, calomel gr v, were administered, and sinapisms were applied to his feet and legs. A catheter was at the same time introduced and a small quantity of urine drawn off, which, on examination, proved to be highly albuminous. At half past eight, two enemata were given within a short time of each other, the first consisting of ol ricini, ol terebinthinæ and gruel, the second of soap and water. At half past ten he was bled by Dr. Drake to 16 oz. At four p.m., the oil and injections not having operated, a full drachm of pulv jalapæ co. was exhibited with the desired effect, and his bowels afterwards remained in a soluble state. On Monday and Tuesday, cold water was kept applied to his head day and night. On Monday night his urine was removed with a catheter, but afterwards he did not require this aid. Before he was bled he went from one fit immediately into another. The bleeding, however, restored

consciousness to such a degree that he could speak intelligibly. It also checked the convulsions, as the patient had but two afterwards, one at noon and the other 7 p.m., of the same day, and these were of but short duration. During Monday he remained also motionless, and could be made to answer questions but with the greatest difficulty, and then only in monosyllables. In the evening he took some beef-tea. On Tuesday he was very restless, kicking his legs about and moving his body while his head remained still. He was however less feverish, and more conscious as he replied to questions without much rousing, and appeared greatly annoyed if disturbed. His urine is now but slightly albuminous. Wednesday; urine quite free from albumen.

The patient is a mulatto about 5 feet 6 inches in height and of good physical development, with negro features well marked. He was born at Lockport, and lived there until he went to Simcoe, a year ago, where he kept a barber's shop. He has always been very healthy with the exception of an attack of typhoid fever when thirteen years of age. He has never indulged to excess, either in brewed or distilled liquors, nor has he ever received any injury. Previously to his present attack he never had any fits. From Simcoe, he went to Hamilton, where he remained the greater part of this summer as a barber. He left this latter place, he thinks, a week ago, and went to Port Hope as bone player to a strolling musician. He remembers having played in five places at Port Hope, but cannot remember how long he was there. The next circumstance he remembers is having wakened up in this hospital on the morning of Wednesday, the 16th. He then complained chiefly of his tongue, which was swollen and painful from his having bitten it during the convulsions.

His convalescence was very rapid, as he was discharged at his own request on the 18th, perfectly cured.

The chief points of interest in this case are:—1st. That the man had never previously suffered from convulsions. 2ndly. That the convulsions supervened without any assignable cause. 3rdly. That during the height of the convulsions the urine was observed to be highly albuminous and diminished in quantity.

Case of Embolism—Paralysis of Left Side. Reported by HERBERT S. TEW, M.D., Assistant House Surgeon Montreal General Hospital.

John Wright, aged 36 years, a native of Scotland, was admitted into Hospital, under the care of Dr. Fenwick, on 20th July, 1865, suffering from symptoms of fever of a continued type. He was a farmer, and had resided in an agueish district in Upper Canada, and had suffered from attacks of ague some years past.

Upon examination, the spleen was found considerably enlarged, in fact presented the condition known as ague cake. Quinine was prescribed, and aperients occasionally, as the bowels were exceedingly sluggish. The case progressed favourably, and he was, to all appearance, improving. The spleen gradually lessened in size. On the morning of the 29th, while lifting the bottle of medicine from his table, the glass fell from his hand, and he rolled on the floor, although he did not lose consciousness.

The poor fellow had to be lifted into bed, when it was found that he had lost all power of the left side. At the hour of visit it was noticed the features were drawn to the right side; there was inability to close the left eye, and, when the tongue was protruded, it was pushed over towards the left. There was total loss of motion of both left arm and leg, but sensation was hardly, if at all, effected. The bowels were still rather sluggish, and two drops of croton oil were ordered to be given immediately, to be followed by calomel and antimonial powder every fourth hour. A blister was applied to the nape of the neck, extending down between the shoulders. The pulse was rather full, but soft. There was no headache, dizziness, nor rigidity of the muscles; no spasms—but he complained of difficulty in swallowing, and his articulation was rather imperfect. The following morning I examined the heart, when a loud systolic bruit was heard towards the left side, near the apex of the heart. The patient then mentioned for the first time that he had suffered from rheumatism some years ago, and had occasionally since been troubled with palpitation of the heart. The case was diagnosed to be embolism produced by the detachment of a fibrous concretion or warty excrescence from the mitral valves as there was evident disease of old standing of this valve. The concretion had apparently separated, and had been carried on in the current of blood, and blocked up some vessel on the right side of the brain, occasioning the symptoms observed. The medicine was continued until the gums were slightly touched, when it was omitted; the treatment subsequently consisting of nourishment and mild aperients when found necessary. He continued much in the same state, with the exception that he regained the power of closing his eye; swallowing and speech were improved; but the extremities were in no way changed. He slept tolerably well, took nourishment, and was more cheerful, though he had repeated hallucinations, especially at night, on which occasions he was troublesome, requiring to be watched, otherwise he would make attempts to leave his bed, declaring his desire to go home. On the evening of the 27th July he had a fainting fit, which lasted only a few moments. The countenance was blanched; there was slight rigidity of the affected extremities; pulse 120; consciousness was

retained; he answered questions, but complained of a feeling of great prostration. He died apparently in a fainting fit on the following morning, 28th July, one month from the first seizure.

Autopsy.—On removing calvarium, the sinuses were found tolerably full of blood. The dura-mater otherwise healthy, not very adherent. The brain was then removed, the vertebral arteries, and the whole of the vessels forming the "Circle of Willis" were gorged with blood. Those on right side of brain were considerably enlarged, especially the branches of the middle cerebral artery. In this artery a considerable enlargement was seen very firm to touch, and proving on examination to consist of a fibrinous clot perfectly white filling up the entire calibre of the artery. Many similar enlargements were noticed in the vessels on the left side; these on inspection were found to contain clots, and obstructed the artery, but containing more colouring matter of the blood, and evidently of more recent formation than the first named.

Section of the Brain.—On exposing the lateral ventricles in the usual way, the right corpus striatum was found of a yellowish colour much softened through its entire substance. In the anterior part of the corpus striatum, the softened matter which surrounded it was of a more pinkish hue. The thalamus of the same side appeared tolerably healthy as did the rest of the brain; the cerebral substance was not more vascular than usual, although on the surface a small quantity of serum of a yellowish opaque colour was seen beneath the arachnoid. The softened matter examined by the microscope was found to consist of fat granules, and exudation cells containing fat granules, and mingled with the debris of broken down cerebral matter.

The heart was firmly contracted, the left ventricle was normal as to size perhaps a little enlarged, having the appearance of concentric hypertrophy. The aortic, tricuspid and pulmonary valves healthy. A considerable patch of atheroma on arch of aorta. The mitral valves were greatly diseased, they were covered with cretaceous deposits; viscera of abdomen were not examined.

REVIEWS AND NOTICES OF BOOKS.

A System of Surgery, Pathological, Diagnostic, Therapeutic, and Operative. By SAMUEL D. GROSS, M.D.; Professor of Surgery in the Jefferson Medical College of Philadelphia. Illustrated by over thirteen hundred engravings. Third edition, much enlarged and carefully revised; 2 volumes. Philadelphia: Blanchard and Lea, 1865. Montreal: Dawson Brothers.

This work has been on our table for some three months, and our apparent neglect in not having noticed it, was due to a desire on our part to examine the two volumes with all the care that the time at our command would permit. We have now done so—and although the examination has not been thorough and complete—it has been sufficient to give us a fair idea of the utility of the work, as a book of reference for the medical man, as well as a text book for students. We have compared it with most of our standard works such as those of Erichsen, Miller, Ferguson, Syme, and others, and we must, in justice to our author, award it the pre-eminence. As a work—complete in almost every detail—no matter how minute or trifling, and embracing every subject known in the principle and practice of surgery, we believe it stands without a rival. Dr. Gross, in his preface, remarks "my aim has been to embrace the whole domain of surgery, and to allot to every subject its legitimate claim to notice," and we assure our readers he has kept his word; for even the smaller surgical diseases—which are daily coming under the surgeon's eye, and therefore very important from their frequency—are fully described, under a chapter—not the least interesting in the two volumes –headed "Minor Surgery." Upon the subject of "Excision of Bones and Joints," a question which has excited a good deal of discussion, within the last few years, Dr. Gross remarks that excision for gun shot injuries, has been proved by the experience of the recent war to be only applicable among the larger joints, to the shoulder and elbow. "Performed upon the hip, knee, ankle, and wrist, it is either promptly fatal or so unsatisfactory as to require subsequent amputation." To "Anesthesia" he devotes a chapter of nine pages, and in this comparatively small compass he reviews most thoroughly, and honestly the relative merits of chloroform and ether, and boldly declares himself in favour of the former. This is a bold stand for an American author, for we believe chloroform is not used in one case in a hundred in the United States when anesthesia is to be produced. Our author says, "I have, myself, always preferred chloroform, believing it to possess decided

advantages over ether, although its administration unquestionably requires greater care and attention. Among the more important of these advantages are, first, the more rapid manifestations of the anesthetic action of the remedy, the system becoming affected much sooner as a general rule, than it does by ether; secondly, a smaller amount of laryngeal and bronchial irritation; thirdly, the more easy maintenance of the anesthetic influence after the system has once been fairly affected; and lastly, the less liability to causing vomiting and other unpleasant consequences." The danger, from its administration is believed by Dr. Gross to be small provided it is given with care and caution. He says "although I have now given choloroform in several thousand cases, for the most trivial, as well as for the most severe and protracted operations, no death has occurred in my hands; and in the only two instances where I felt any serious alarm, the danger was occasioned, not by any fault of the article itself, but by its injudicious administration.

In addition to great caution, Dr. Gross believes that pure chloroform is an essential, as to safety. With regard to its mode of administration he prefers a napkin folded in the form of a cone, a method which has been followed ever since the discovery of chloroform with happily very great success in the Montreal General Hospital. Among the precautions he gives previous to its being inhaled, we extract the following: "An empty state of the stomach is desirable first, because if given soon after a meal it causes vomiting, and secondly, a crowded condition of that organ materially interferes with the movements of the diaphragm. Food must not be taken for at least four hours before the inhalation. When the patient is feeble, or pale, or timid, it would be advisable to give him immediately before the operation, from half an ounce to an ounce of brandy, and the dose may be afterward repeated if the effect is to be maintained for an unusual length of time."

Dr. Gross strongly insists upon one person being appointed at the operation, who will unceasingly watch the patient during the inhalation of the chloroform. This suggestion we most heartily endorse, for we have again and again seen the attention of every one—not excluding the one giving the chloroform—so entirely given to the operation itself, that any sudden change in the condition of the patient could not possibly have been detected in time to have been of avail. The author also advises anesthetics never to be given to females, except in presence of witnesses; for cases, well known to the profession, admonish us that no one's character is safe, there being many instances to show that when under both chloroform and ether, sexual ideas predominate in the brain.

On the subject of the radical cure of hydrocele, Dr. Gross expresses a most

decided preference to throwing into the sac several ounces of a weak solution of tincture of iodine—and removing it as soon as it causes pain —instead of the plan followed by many of injecting from two to three drachms of the strong tincture, and allowing it to remain. We are of course not prepared to call in question so high an authority—but we must record our experience as being in favour of the latter method. Dr. Gross says: "During the last four years I have effected a number of rapid and excellent cures of hydrocele, both in adults and in children, by laying open the vaginal tunic with a small incision; and after all the fluid had been discharged, *mopping* the sac freely with equal parts of tincture of iodine and alcohol or iodine variously diluted. In no instance has any unpleasant symptoms followed the procedure. One more extract, and we will conclude. Upon the treatment of gonorrhœa, there is at the present day a great diversity of opinion—and we fancy we notice a decided leaning towards the adoption of what is generally termed the abortive treatment. From experience, and it has not been a very limited one, we look upon this plan as one to be frowned down, as it entails, almost invariably, consequences so disastrous as to throw entirely into the shade the original complaint. After alluding to this plan, Dr. Gross says, "I allude to these two modest (the French ectroted and the English abortive) of practice, simply for the purpose of condemning them, being satisfied from ample experience, that though they may sometimes succeed —yet in general they either completely fail, or, what is worse, only aggravate existing trouble, increasing the discharge, pain, and scalding of the urethra,—protracting the attack—and endangering the epydidymis and testicle."

The first volume consists of 1049 pages, and the second volume of 1086 pages. It is illustrated by over thirteen hundred illustrations, and beautifully printed, and substantially bound. It is a work which we can most confidentially recommend to our brethren—for its utility is becoming the more evident, the longer it is upon the shelves of our library.

REPORT OF THE PROCEEDINGS OF THE COLLEGE OF PHYSICIANS AND SURGEONS OF LOWER CANADA.

Custom, no less than law, renders a report of the proceedings of the College of Physicians and Surgeons of Lower Canada necessary; and the retiring officers have the honor therefore to lay before its members, the following details of its doings for the past three years for their information, being the sixth Triennial Report.

At the meeting held at Melbourne, E. T., on the 9th July, 1862, thirty-six (36) members of the College were present, representing seven

teen (17) proxies, composing in all fifty-three (53) votes; when the following was the result of the election for the current three years, of the

BOARD OF GOVERNORS.

For the city of Quebec—Drs. R. H. Russell, William Marsden, J. G. Fremont, O. Robitaille, J. E. J. Landry, P. O. Tessier, H. Blanchet, A. Jackson.

For the District of Quebec.—Drs. A. Von Iffland, L. Tetu, Jos. Marmet, E. Boudreau, A. T. Michaud, William W. Forrest, T. Charest.

For the City of Montreal.—Drs. H. T. Peltier, T. W. Jones, P. A. C. Munro, W. E. Scott, Louis Boyer, William Sutherland, E. Robillard, R. P. Howard.

For the District of Montreal.—Drs. C. Smallwood, R. C. Weilbrenner, Joseph S. Brigham, F. Z. Tassé, Joseph Chamberlin, M. Turcot, S. S. Foster.

For the District of St. Francis.—Drs. M. S. Glines, F. G. Gilbert, J. B. Johnson.

For the District of Three Rivers.—Drs. A. G. Fenwick, Joseph Smith, and Edouard Chevrefils.

On the result of the ballot being declared, the public meeting adjourned; and the newly elected Governors met to elect their officers. Dr. Hall, the late president, having returned thanks in a neat and appropriate speech, acknowledged the uniform and cordial support which the college had ever extended to him in the chair, and claimed the same for his successor. He called Dr. R. H. Russell to the chair *pro tem*, and proceeded to elect a president, when there being a large majority of votes in favor of Dr. Marsden, that gentleman was declared to be duly elected president and took the chair; Dr. Von Iffland was also elected vice-president for the District of Quebec for the second time by a large majority of votes. The vote for vice-president for the District of Montreal was equal between Drs. Munro, Scott, and Sutherland, when the president being called upon to give his casting vote decided in favour of Dr. Sutherland, who however declined the honour; whereupon the President refused to exercise his privilege a second time, and called upon the meeting for a new ballot, which resulted in the election of Dr. Scott, for vice-president for the District of Montreal.

Dr. R. H. Russell was elected secretary for Quebec, and Dr. H. T. Peltier re-elected secretary for the fourth time for Montreal.

Dr. T. W. Jones was unanimously re-elected registrar and treasurer, also for the fourth time.

At the semi-annual meeting of the college held in Quebec, on the 14th October, 1862, after the minutes of the triennial meeting of the 9th July last had been corrected and adopted, Dr. Russell, the secretary for Quebec, called the attention of the Board of Governors to the fact, that among the candidates for examination for license to practice, there were several who could not produce certificates that they had pursued their studies uninterruptedly during a period of four years, as required by law; when it was unanimously resolved on motion; "That a special certificate

shall be exacted from all candidates for license, shewing that the four years of uninterrupted study required by law has been completed, the certificate to be signed by the secretary of the school or institution where the candidate has studied; provided always, that such as commence their studies from this date, shall be held to produce a regular indenture (*Brevet*) in conformity with the statute; the resolution of the board passed on the 10th May, 1853, to the contrary notwithstanding, it being illegal.

An address of condolence to Her Most Gracious Majesty the Queen on the occasion of the sudden and unexpected decease of His Royal Highness Prince Albert, eminent alike in the position he assumed in the advancement of the arts and the promotion of science, was adopted at the last meeting of the college before the election of the present governors; and was transmitted through His Excellency the Governor General to Her Majesty. On the 31st of July following, a gracious reply was received stating that "Her Majesty derived much satisfaction from the expression of sympathy and attachment to Her Throne and person contained in the address."

At the first semi-annual meeting of the board of governors, the president refused to sign the licences of chemists, druggists and apothecaries, alleging that he had taken a legal opinion on the subject, and that the college had no legal control over that class of persons, and his signing would consequently be an illegal act, and lead to endless confusion; when it was resolved "that the president, vice presidents and Secretaries do form a committee, to frame additions and amendments to the by-laws, rules and regulations, to be submitted for approval at the next triennial meeting; and to revise and consolidate them; and to consult counsel if necessary, in order to ascertain the legal position of chemists, druggists and apothecaries.

The result of that opinion was, that the college had no legal control whatever over apothecaries, and that the licenses granted to them were of no more value than so much waste paper; no by-law having been adopted by the college to regulate the study of pharmacy; and the Act 12 Vic. Chap. 52, not having repealed so much of the Ordnance Geo. 3, Chap. 28, as related to apothecaries, the college had therefore no power either to examine or license them. Under these circumstances the president applied for, and obtained from the executive, a commission appointing the Board of Governors the examining board *quoad* apothecaries, dated 5th September, 1863, until the act could be amended; and by his continued and persevering efforts, a bill was passed through the Legislature which repealed, Chap. 71, Sec. 16, of the Consolidated Statutes for Lower Canada, and legalized the licences to sell and distribute medicines by retail in Lower Canada, which had been granted in ignorance of the law by the Provincial Medical Board, and which also brought the chemists, druggists and apothecaries under the legal control of the college.

The college has to acknowledge its obligations to F. Z. Tassé, M.P.P., one of the governors of the college, for his valuable aid in carrying through that bill.

It may not be out of place to inform the college that in consequence of the chemists, druggists and apothecaries not being incorporated with the College of Physicians and Surgeons, as originally intended, by the framers of the Act of Incorporation, a by-law to regulate the study of pharmacy was not adopted at that time; but as the Act just referred to, now brings them under the control of the college, a by-law has been prepared for your consideration which is embodied among the codified by-laws herewith submitted for your approval. A by-law has also been prepared to enforce systematic enregistration, for which the Act of Incorporation provides; and which is absolutely necessary to protect the public from the encroachments of unlicensed practitioners.

It is proper to call the attention of the college to the fact, that the by-law affecting persons possessing medical degrees or diplomas obtained in "Universities or Colleges in Her Majesty's dominions," and entitled to license without examination, is illegal, and requires amendment; as no By-law can have the force of law, that is not in exact conformity with the act itself. It will be seen by a reference to the minutes of the proceedings of the college of the 10th October, 1848, that Dr. Arnoldi, then president of the college, laid before the meeting a letter received from the provincial secretary on this very subject, informing him "that the by-laws would be sanctioned by His Excellency the Governor General, "*if three clauses contrary to the Act and illegal were struck out;*" one of which was the clause in question. The other two clauses referred to, were struck out, but strange to say, this one was allowed to stand, notwithstanding its illegality, and the by-laws are sanctioned in these ambiguous terms "I have perused and examined the by-laws hereunto affixed, and the "same as *far as I lawfully may*, I do by these presents approve and allow." Some misunderstanding having occurred in reference to the fees attached to the office of registrar and treasurer, a committee composed of Drs. Chamberlain and Smallwood, was named to investigate the matter, and resulted in establishing the fact that, that officer was not sufficiently paid; and recommending that in future the treasurer receive two shillings and sixpence as registration fee, as prescribed by the by-law; and that he should be further allowed as much as would be required to complete the sum of fifty dollars annually, from the funds of the College; if the Registration fees do not amount to that figure; and, if on the other hand they exceed that sum, the surplus to be placed to the credit of the college; which motion was adopted.

The president called the attention of the college to the fact, that the law contemplates and provides for the keeping of two separate sets of accounts having distinct and specific objects; and, that only one common account has hitherto been kept. A committee was therefore named to examine and report; and it was thereafter resolved, that in future, the funds of the college shall be kept in two separate accounts, the one formed of all sums accruing from candidates' licenses, which shall go towards paying the travelling expenses of governors of the college during the semi-annual meetings as far as it will go; and the other from all other sources whatsoever, to form the general fund of the college for all purposes connected with its management, &c.

Among the subjects that have engaged the attention of the college, is one for the formation of a medical relief fund; and another, for the formation of fellowship, or for the conferring of honorary degrees; reports on each of which will be laid before you.

Among the most important matters that have engaged the attention of the college, is one suggesting the changing the system of examinations of candidates for the practice of medicine; of which, past experience has demonstrated the absolute necessity. The following is the plan suggested:—

"That in future the examinations for the licenses of the College of Physicians and Surgeons of Lower Canada shall be conducted in writing, and to that end, three governors shall be nominated, at the first regular meeting after the triennial meetings, examiners on each of the following subjects, a different three for each subject; viz.—Anatomy, Chemistry, Materia Medica, Institutes of Medicine, Theory and Practice of Medicine, Surgery and Midwifery. And two governors shall be nominated examiners, a different two on each subject, on Medical Jurisprudence and Botany. That three questions upon each of the subjects shall be proposed to each candidate, except in case of medical jurisprudence and botany, upon each of which, two questions shall be sufficient. Three hours shall be allowed for the written examination."

"The examiners shall have the option of interrogating the candidates upon their written answers, when it may be thought necessary."

"The candidates shall attach a motto instead of their real name."

"The proposed change will be submitted for the consideration of the new board of governors, and will, if adopted, save much valuable time both to the examiners and the candidates, besides forming a more reliable and honorable test of qualification. The time thus saved to the examiner could be more profitably devoted to the general affairs of the college, which under the present imperfect system, are too often carried through in a very imperfect manner, or postponed from time to time,—or left to be performed by a very small meeting.

A bill, which your president was requested to watch in its progress through Parliament, passed the Legislature in 1863, authorizing Elijah Rowell and Thomas Merrill Prime to present themselves before the board of examiners of the College of Physicians and Surgeons of Lower Canada, "without any further course of study, for examination, and license." The former presented himself at the May meeting of 1864, and the latter at that of 1865. Both were examined and found qualified, and received their licenses accordingly.

Repeated attempts have been made by the college to suppress quackery by prosecutions against persons practising medicine without license, but they have always hitherto resulted in defeat and cost to the college; but it is satisfactory to say, that it has at length succeeded in obtaining a conviction with costs, against one Ouellet, who was practising without license at Lotbinière. The amount of the fine, £5, has been paid into the funds of the college by the president. The cause of failure in the former instances is entirely attributable to the want of sufficient legal evidence; and the board is of opinion, that if proper evidence had been

produced, that is, two witnesses to the same fact, conviction would have followed all these actions. In this case, the president refused to give the authority of the college with which he was invested for the purpose of prosecuting in its name, until he had been furnished with a copy of the evidence to be produced; and the Board respectfully recommends that a similar course be adopted in like cases when they occur.

The last triennial report alludes to the misinterpretation of the law in reference to the validity of your licenses "ad practicandum" in Upper Canada; and contains some strictures upon the action of the attorneys general, West and East, and the result of the correspondence of the college with these honourable gentlemen is summed up thus: "These officers did not feel themselves bound either to prosecute for, or give opinions on the construction of the law to corporate bodies, but that they think it the better course to have corporations or individuals to prosecute their own cases, and that if this be done in reference to the disputed point, the courts of law must decide in favour of the value of the college licences, with costs."

The case of Dr. Cruikshank alluded to in that report was not pushed to a final issue, but that of Dr. Shaver resulted in a decision of the Courts of law of Upper Canada, affirming that a license obtained in one province, entitles the bearer to practise in the sister province without examination, under the 4th and 5th Vic. Chap. 41, but subject to the laws to which other practitioners are liable, in the portion of the province in which he shall practice.

Whilst on this subject, it is only just to acknowledge the prompt and willing co-operation, aid and counsel of the law officers of the crown, in all that relates to the affairs of the college during the past three years, through successive and changing administrations; and especially of the Hon. John A. McDonald, the Hon. Mr. Sicotte, the Hon. J. S. McDonald, and the Hon. Messrs. Abbott and Huntingdon.

A strange anomaly exists in the law regulating the practice of medicine, surgery and midwifery that extends through every act regulating the same, and which calls for amendment. By the Act of Incorporation of this College the license of the board of examiners under the by-laws, entitles the bearer to practice physic, surgery and midwifery; whereas the law permits the bearer of a degree or diploma, from universities or colleges, in Her Majesty's dominions, to practice physic, or surgery, or midwifery, and to obtain a license from the board as a general practitioner without examination, which license the board is bound to grant; thus according a higher qualification to the bearer than he possessed in the place where the diploma was granted; and, on easier terms, and with more slender qualifications than are exacted from Canadian students. This state of things is most unsatisfactory, and has repeatedly led to opposite and contradictory results, the college in some cases, having accepted the diploma of the college of Surgeons of Edinburgh, London, or Dublin as a legal qualification, under oath, and in others, refused it; and (although contrary to law,) the candidates, in many such cases, have submitted to examination on the branches of the profession not included in the diploma, and were found to be far below the professional standard of our own students, and were rejected.

A case in point came before the college in May last, that of a gentleman, the bearer of a diploma from the college of Surgeons of Edinburgh, who had practiced medicine successfully, for upwards of a quarter of a century, in the adjoining Province of New Brunswick, and for some time in Upper Canada. That gentleman claimed and demanded his right to a license without examination; and a lengthy correspondence ensued between him and the president on the subject which accompanies this report.

Under the circumstances, the president thought proper to consult counsel, which he did at his personal expense; and the joint opinion of Fred. Andrews, Q.C., and J. B. Parkin, Q.C., Esquires, and gentlemen eminent for their legal acquirements, affirmed, in positive terms, the right of the bearer of the diploma to license without examination. The board, therefore, as on several former occasions, (among which, that of Dr. Blatherwick, a member of the College of Surgeons of London, will be remembered,) granted a license to Dr. Anderson without examination, the oath having been administered by the president in the usual manner in presence of the board.

By reference to the minutes of the tenth of October, 1854, it will be seen that Mr. Jas. Martin presented diplomas from the College of Surgeons of Edinburgh as Doctor in surgery, pharmacy and midwifery, and demanded a license thereon without examination; Mr. B. Cole having done the same, on the 6th May previously: when the board decided unanimously in both cases, that they would require to submit to an examination in medicine only, which they declined to do. On the 8th May, 1855, it having been reported to the college that Messrs. Martin and Cole were practising medicine in Quebec without license it was resolved that "they should both be prosecuted," Dr. Sewell only dissenting. The president in consequence, communicated with Mr. Martin on the subject, and that gentleman, insisting on his right to license without examination, expressed his readiness to defend an amicable action with the college, to test the question of legal right; when, after taking legal advice, it was decided not to take proceedings, as the college must fail in its action. If after these proceedings, and the legal written opinions now before the college, it is of opinion that there is still any doubt upon the subject, it is respectfully suggested to test the question by an amicable action, in the first case that presents itself to the college.

Since the last triennial meeting your board has to lament the loss of three of its active and influential members. The death of Dr. Fremont, of Quebec, a past president and a governor of the college, one of the original members, and that of Dr. Glines, of Compton, E. T., also an intelligent and efficient governor, was announced at the May meeting of 1863. The former died at sea, on board of the mail steamer Bohemian, at the latter end of December 1862, on his passage home from England, where he had been for the benefit of his health; and the latter in the bossom of his family at home, surrounded by mourning friends.

At the last May meeting the sad announcement of the death of teh efficient and popular registrar and treasurer of the college, Dr. T. W. Jones, was made. This gentleman had filled the important and responsible office

of registrar and reasurer of the college during four successive terms, to the entire satisfaction of the college. These gentlemen had been in declining health for some time previous to their decease, but they all literally died in harness, having respectively assisted at the meetings of the college preceding their decease.

Appropriate expressions of regret and condolence were adopted by the college in each case, and copies were transmitted to their respective families. The unavoidable length of this report will not permit any extended notice of the undivided claims of these gentlemen upon the grateful recollection of the college, which will outlive the present generation, and perchance—be kindly remembered by the next.

The vacancy in the board of governors occasioned by the lamented death of Dr. Fremont, was filled by the election of Dr. James A. Sewell, of Quebec; that of Dr. Glines, of Compton, by Dr. E. Worthington of Sherbrooke, E. T., and that of Dr. Jones, by Dr. Smallwood, of Montreal, which latter gentleman's seat for the district of Montreal had become vacant by his removal into the city; and, his place in the district was filled by Dr. Dufresne, of Laprarie. Dr. Johnson, of Sherbrooke, having resigned his seat as a governor of the college, it was accepted in October 1863, and Dr. Hamilton, of Melbourne, was unanimously elected to fill the vacant seat for the unexpired term of office.

It will be seen by a brief retrospect of the proceedings of the college since its foundation, that it has exercised an amount of public and professional usefulness commensurate with the important character of its high and honourable trust. It has unmistakably attained a dignified and permanent existence among the scientific institutions of the country, notwithstanding the numerous attacks upon its management, both open and covert, of the most hostile and factious character that have been made. Among the circumstances that establish this fact, is the large accession of new members that has taken place within the past three years. In the triennial report of 1859 the indifference of the medical profession to avail itself of the advantages of becoming active members of the college is alluded to as follows, "only two new members have enrolled their names among the members during the past three years." During the next triennis, three new members only, (making in all five,) had inscribed their names since the foundation; whereas an accession of twenty one new-members has taken place during the past three years, and a number of candidates await your vote this day for membership.

The annexed table has been prepared to exhibit the comparative results of the examinations of the college during the six triennial periods of its existence; and shows that during the first triennial period from 1849 to 1850, of sixty four (64) persons who presented themselves for examination for the provincial license, thirty-five (35), or more than one-half were remanded to their studies; whereas, during the three years ending 1865, out of sixty-five examined, sixteen (16) only were rejected, or less than one-fourth. By reference to the same table it will also be seen, that the business of the college has been very considerable, and, has progressively increased every year. A mere glance at the figures might discredit this statement without explaining the fact, that of forty-four (44) graduates

or persons who obtained licenses during the first triennial period, a large number were persons who were the bearers of American diplomas, who had been in practice in Lower Canada for a number of years before the 28th July, 1847, *i. e.* before the organization of the college, and, who were entitled to license by applying within a limited time under the provisions of the 14th and 15th Vic. Chap. 15. From the next triennial period however, the increase has been regular and progressive; and a fact worthy of note is, that apothecaries have recognized their changed position under the Act 27th and 28th Vic. Chap. 51. by voluntarily coming before the college for preliminary examination, before the by-law necessary to enforce the same legally, has been adopted.

All that is now required for the public safety in as far as chemists, druggists and apothecaries are concerned, is a "bill to regulate the sale of drugs and poisons," of which the recent deplorable accidents in Quebec and elsewhere have shewn the necessity. A committee has been named by the college to bring the subject before Parliament, and to carry it through the legislature, and no obstacle to the accomplishment of so desirable an object is anticipated.

An invitation to the College to send delegates to the American Medical Association to be held in Boston on the 6th of June last, and two following days, was received by the president, after the May meeting, at too late a period to call the college together under the by-laws to act upon it; and a printed copy of the invitation was therefore sent to each governor with the least possible delay, by the secretaries. Two gentlemen from the District of Montreal only, Drs. Foster and Brigham, accepted the invitation, and were furnished with the necessary credentials, and together with the president attended the meeting; and they have to acknowledge the hospitality, courtesy, and kind attention, not only of the association and medical profession, but of the citizens of Boston also.

By reference to the minutes of the 13th July, 1853, being the triennial meeting, it appears, on motion of Dr. David, seconded by Dr. R. H. Russell, that it was unanimously resolved to accept the invitation of the American Medical Association, to send a delegate, and "the Secretary was instructed to ascertain whether the person so attending, can take his seat as our representative, and that the president elect be the first delegate; and afterwards the delegate be chosen by the board of governors." No further record appears on the minutes on this subject; but, as the delegates who attended the last meeting were permitted to take part in the proceedings of the association, which are of a character calculated to advance the interests of medical science, it is respectfully recommended that this suggestion be acted upon by our successors, and that a delegate be named at the first semi-annual meeting as the next meeting of the Association will be held at Baltimore on the second Tuesday in May next, being the same day as the semi-annual meeting of this College.

The following is a tabular view of the first six triennial meetings of the Board of Governors of the College with the results of the examinations:

Triennis	Phys. & Surg.		Apothe.		Stud. in Med.		Stud. in Pharm.		Total.		
	Adm.	Rej.	Adm	Rej	Adm.	Rej.	Adm.	Rej.	Adm.	Rej.	Total.
1st. 1850	108 44 M. D. Ex. 64	35	4.	0	40.	8	0.	0	152.	43.	195.
2nd. 1853	61 33 M. D. Ex. 28	12	2.	0	60.	10	0.	0	123.	22.	145.
3rd. 1856	67 29 M. D. Ex. 38	7	4.	0	86.	11	0.	0	157.	18.	175.
4th. 1859	78 26 M. D. Ex. 52	9	5.	1	97.	12	0.	0	180.	22.	202.
5th. 1862	81 23 M. D. Ex. 58	7	7.	0	108.	19	0.	0	196.	26.	222.
6th. 1865	107 42 M. D. Ex. 65	16	20.	2	100.	12	4.	2	231.	32.	263.
	502.	86	42.	3	491.	72	4.	2	1039.	163.	1202.

It will be seen that the large number of one thousand two hundred and two (1202) persons have submitted to the requirements of the college, of whom one hundred and sixty three (163) have been rejected during the past eighteen years. Within the past three years, one hundred and seven (107) persons have obtained licences to practice, of whom forty-two (42) were graduates, and entitled to license without examination, and sixteen (16) were rejected.

Within the last three years, twenty-two (22) apothecaries were examined, and two (2) rejected, which is nearly half the whole number that have appeared before the college since its foundation; being forty-three (43) in all. One hundred and twelve (112) candidates for the study of medecine were examined during the same period, of whom twelve (12) were rejected; and six (6) for the study of Pharmacy, of whom two were rejected.

Among the rejected candidates two were rejected twice, and one three times; which contrasts most favourably with the first triennial period, when one was rejected five times; two, four times; two, three times; nine twice; and twenty-one, once.

Much inconvenience having resulted from the circumstance of the president, and registrar and treasurer, being elected from extreme ends

of the province; and especially during the past three years, and inasmuch as it is required by law, that "the president shall sign all vouchers for the payment of money, and shall inspect and examine the books and accounts" at stated periods, and at any other time "that he may think proper to do so," it is suggested, that these most important interests of the college will be subserved by electing these officers for the future, from the same district, or, in other words, alternately from the districts of Quebec and Montreal.

The report of the last triennial meeting recommends that the future convocations of the college be held alternately in Montreal and Quebec, as being more convenient to a large number of the members in those districts-and the subject was agitated at that meeting; and a motion to hold the next meeting at Three Rivers was adopted after considerable discussion; the general opinion of the meeting being, that the independent character of the college would be best maintained, by avoiding the chances of a sectional preponderance at the triennial elections; and that some place remote from the large cities be selected as a sort of neutral ground.

At the last semi-annual meeting of the college its attention was called by the secretary, Dr. Russell, to the want of accommodation and convenience, in the place used as a place for the meetings of the college, in Montreal; which contrasted most unfavourably with the place of meeting in Quebec, where the doors of the Laval University have always been open to the college, and the splendid rooms of that fine institution placed at its disposal free of charge.

It was then suggested that as the funds of the college were ample, a more convenient place for its future meetings should be procured in Montreal; and a vote of thanks to the authorities of the Laval University, was carried by acclamation.

The secretary, having communicated the same to the Reverend Principal of the University, it elicited the following gracious reply:

LAVAL UNIVERSITY, QUEBEC, 14TH JUNE, 1865..

R. H. Russell, M.D.

Secretary, College of Physicians and Surgeons, Lower Canada.

DEAR SIR,

Yesterday evening was held the first meeting of the Council of the Laval University, since the receipt of your letter of the 20th May, in which you transmit a copy of a resolution of the College of Physicians and Surgeons of Lower Canada, thanking the authorities of the Laval University for having provided apartments for the College of Physicians and Surgeons during the past few years. The members of the Council of the University are grateful for this expression of the feeling of the College, and will always be happy to render any assistance to an institution so honourable and so devoted, as the Colleges of Physicians and Surgeons of Lower Canada.

Accept, Mr. Secretary, the assurance of my distinguished consideration.

(Signed), "E. A. TASCHEREAU, *Priest.*
R. U. L.

Discordant subjects have occasionally agitated the board during the past three years, probably owing to the rigid interpretation of the law by

the president; but the good feeling and good sense of the members have on all occasions prevailed, and ultimate acquiescence in his decisions have been the happy result.

The importance of the various matters treated of in this report must be the apology for its great length; the whole being nevertheless respectfully submitted.

Three Rivers, 12th July, 1865.

W. Marsden, M.D.,
President.

R. H. Russell, M.D., Ed.,
Secretary for the District of Quebec.

Hector Peltier, M.D., Ed.,
Secretary for the District of Montreal.

PERISCOPIC DEPARTMENT.

Surgery.

ANEURISM OF COMMON FEMORAL ARTERY—LIGATURE OF EXTERNAL ILIAC—RECOVERY.

Under the care of Mr. Fergusson, King's College Hospital.

W. B., aged 39, was admitted into King's College Hospital on May 5, 1865, with an aneurism of the right common femoral artery. States that on the 21st of February last, when lifting a heavy plank of wood, he felt a sudden, sharp pain in the right groin, at the same time experiencing complete loss of muscular power, and a peculiar sensation of cramp accross the lower part of the belly and loins. During the following week he felt slight pricking pain in the site of the present tumour, and at the end of that time he noticed there, for the first time, a small swelling, a little larger than a pea, which throbbed. An ordinary hernia truss was applied without benefit, the tumour gradually and slowly increasing in size.

On the 12th of April he was admitted into King's College Hospital, digital pressure having been applied for the last five days, the tumour, however, suffering no permanent diminution in size on cessation of the pressure.

For a few days immediately before his admission into Woolwich Hospital the tumour increased in size rapidly beyond the fold of the groin.

On admission there was a firm pulsating tumour, as large as a small orange (three inches accross, vertically and transversely) in the right groin, its vertical axis corresponding with the position of the common

femoral artery. Poupart's ligament could be felt passing under the upper part of the tumour. The tumour expanded uniformly, and communicated a thrill to the fingers with each pulsation, the successive dilations being synchronous with the beats of the pulse at the wrist. The tumour was tolerably firm, as if its walls were thick, and could be completely emptied by pressure with the fingers.

May 8th.—A slight increase in the size of the tumour since admission is observable.

10th.—Operation under chloroform. An incision was made about four inches long, an inch above Poupart's ligament, nearly parallel with it, the scalpel being carried outwards from a point half an inch external to the external abdominal ring. The tissues superficial to the tendon of the external oblique being first divided, an incision was now made through the tendon of the external oblique muscle; then the fibres of the internal oblique and transversalis fascia were cautiously divided, so as to expose the transversalis fascia; this structure was scratched through with the finger nail, and the opening made dilated with the fingers. The peritoneum was now carefully stripped from the fascia iliaca and held back by a small wooden "butter pat" with a fluted surface, and the vessels being now exposed, the needle was passed from within outwards and the vessel secured by a ligature. Pulsation in the aneurismal sac ceased instantly, and the whole limb fell slightly in temperature. The wound was closed by sutures and a pad of lint strapped firmly over it. He was removed to bed, and the limb enveloped in cotton wool. 15th: Feverish; complains of nausea; no abdominal tenderness, and no tympanites; pulse 112; limb same temperature as left. 16th: Pulse 96, full; still feverish; dressings removed; the margins of the wound found to have healed by first intention, except at the outer part of the incision; slight discharge of bloody pus; sutures removed; no pulsation in aneurism, the tumour being also smaller; temperature of right foot 89°, left 92°; urine scanty and high coloured; skin dry and hot; slight flush of inflammatory redness about the wound; poultices ordered. 17th: Vomited this morning; complains of an indescribable uneasiness about the chest and belly, though no tenderness is evinced on pressure on the abdomen, except immediataly about the wound; discharge from wound healthy; temperature of right foot 100°, left 85°. 18th: Less abdominal uneasiness; no recurrence of vomiting; skin and tongue moist; right foot 92°, left 95°; aneurismal tumour now almost incompressible, and free from pulsation. 20th: Temperature, right side 82°, left 85°; free healthy discharge from wound. 30th: The ligature came away (eighteen days after operation). June 12th: Patient

in excellent health; wound nearly healed. (We are indebted to Mr. P. Bradshawe for the notes of this case.)—*Med. Times.*

A CASE OF HERNIA CEREBRI—RECOVERY.

By W. H. Traver, M.D. Providence, Rohde Island U. S.

June 2d, 1863. I was called to see John McN., æt. 4, who had fallen from a first-story-window, striking his head upon a sharp stone, fracturing the upper and left part of the os frontis rupturing the membranes, and wounding the tissues of the brain. Pieces of the cranium, the size of a ten-cent piece, were taken out. A triangular piece of window-glass, about half an inch in length, was found imbedded in the brain. The opening in the scalp was partially closed by means of the interrupted suture and adhesive straps. The sutures came away in due time, the straps becoming disarranged, a portion of the brain, about three-fourths of an inch in diameter, protruded and extended seven-eighths of an inch above the surface of the cranium.

The hernia or protruding brain was excised, and a piece of patent lint saturated with lime-water was placed over the orifice, and in immediate contact with the brain. Over this a graduated compress and bandage.

The wound was dressed daily, and the lint kept saturated with the lime water. The slightly astringent properties of the lime-water produced a contraction of the brain in the apertures of the cranium, and together with the compress, caused it to recede below the surface. The wound in the scalp healed kindly. Little or no pulsation can now be felt.—*Philadelphia Medical and Surgical Reporter.*

PRACTICAL OBSERVATIONS ON ACUPRESSURE.

By William Pirrie, M.C., M.D, F.R.S.E., Professor of Surgery in the University of Aberdeen; Surgeon to the Royal Infirmary of Aberdeen.

A new method of arresting hæmorrhage from cut arteries, founded on the principle of temporary metallic compression, called the method by acupressure, was suggested by Professor Simpson, and first described by him to the Royal Society of Edinburgh in December, 1859. It is useful to read the original descriptions of important discoveries, and I have perused with much interest the abstract of the above original communication on acupressure, contained in the *Proceedings* of the Royal Society (vol. iv., p. 249), and the somewhat fuller account given in the *Edinburgh Medical Journal* of January, 1860; also Professor Simpson's communication to the London *Medical Times* of February 11th, 1860, giving

the histories of the earliest amputations in which acupressure was used for arresting hæmorrhage. To those who wish to be thoroughly acquainted with the history, progress, advantages, and the three principal methods of this new proceeding in practical Surgery, the perusal of the above-mentioned papers, of four original lectures on acupressure, by Prof. Simpson, contained in the numbers of the *Medical Times* for January, 1864, and of his instructive work on the same subject, published in Edinburgh in the end of last year, will afford all the information that can be desired. Both in the lectures and in the work the principal methods of acupressure are so clearly described and so distinctly illustrated that any Surgeon wishing to practise them can have no difficulty in knowing how to do so. The whole subject has been treated so fully that further argument in its favour seems unnecessary; but although such has been the case—although acupressure has been practised by some surgeons in these islands, on the Continent, in Asia, Africa, Australia, and by so many in America that the American demand for the passive iron wire used in the proceeding, and for sutures, has stimulated its manufacture in England to a remarkable degree; and although the progress of acupressure in the time that has elapsed since it was proposed by Professor Simpson as a means of arresting surgical hæmorrhage has been greater than that of the ligature in the same length of time, after its application by Ambrose Paré to arrest hæmorrhage in amputations, still it has not as yet met with general adoption. The period seems now to have arrived when it is desirable that those who have tried this hæmostatic agent should put their cases on record; and however inconclusive the observations of a single surgeon may be, the accumulated experience of many will furnish perfectly reliable statistics, and a just appreciation will be arrived at regarding acupressure.

My hospital experience of acupressure as a hæmostatic agent, in important cases of which records have been kept, comprehends its use in five amputations in the middle-third of the thigh, one amputation of the leg below the knee, two cases of the removal of mamma, and one of excision of the elbow-joint. I have employed this method of arresting hæmorrhage in several major operations in private practice, as well as in many minor ones, which I did not deem sufficiently important to be put on record. Of cases in private practice, I shall in the present communication only mention four—namely, one of amputation above the middle of the thigh, the sixth case in all in which I have used acupressure in amputation in that region; one of excision of the testicle, one of removal of the mamma, and a case of considerable interest in which there was great hæmorrhage from a wound in the back part of the upper half of the forearm, caused

by the point of a scythe passing forward between the bones, and injuring an artery in the front of the forearm. In every case, both in hospital and private practice, in which I have employed acupressure, its use has been most satisfactory.

Various Modes of Acupressure.

Before giving a brief record of my experience of this hæmostatic agent, it may be advisable to describe very shortly the principal methods of acupressure hitherto employed. They are seven in number.

The first method "consists in passing a needle through the flaps or sides of the wound, so as to cross over and compress the mouth of the bleeding artery or its tube, just in the same way as in fastening a flower in the lapelle of our coat, we cross over and compress the stock of it with the pin which fixes it, and with this view push the pin twice through the lapelle. The only portion of the needle which is left exposed internally on the fresh surface of the wound is the middle portion of it, which bridges over and compresses the arterial tube at its bleeding mouth, or a line or two or more on the cardiac side of it. And if it were a matter of any moment, this part need not always be left bare, for the needle could be often passed a few lines higher up, between the vessel and the cut surface, and without emerging on that surface. More or less of both extremities of the needle—viz., its head and point, are exposed externally on the cutaneous surface of the side or flap of the wound. When passing the needle in this method, the surgeon usually places the point of his left forefinger or of his thumb upon the mouth of the bleeding vessel, and with his right hand introduces the needle from the cutaneous surface; and passes it right through the whole thickness of the flap till its point projects for a couple of lines or so from the surface of the wound, a little to the right side of the tube of the vessel. Then, by forcibly inclining the head of the needle towards his right, he brings the projecting portion of its point firmly down upon the site of the vessel, and after seeing that it thus quite shuts the artery, he makes it re-enter the flap as near as possible to the left side of the vessel, and pushes on the needle till its point comes out again at the cutaneous surface. In this mode we use the cutaneous walls and component substance of the flap as a resisting medium, against which we compress and close the arterial tube. But in some wounds a neighbouring bone or other firm unyielding texture forms the best and readiest point of resistance against which to pin and compress the artery by the acupressure needle."

The second method consists in inserting the needle in the fresh surface at a little distance from the vessel, pushing it on, causing its point to rise

up as near the artery as possible, bridging over and compressing it, dipping the point of the needle into the raw surface of the wound on the other side of the vessel, forcing it on, and causing the needle to emerge a second time on the wound. The needle is threaded with a passive iron wire, by which it can be easily withdrawn.

The third method consists in entering the needle on one side of the artery, pushing it behind, causing its point to emerge on the opposite side of the vessel, passing a loop of inelastic iron wire over its point, bringing the wire over the track of the artery and behind the stem of the eye-end of the needle, drawing it sufficiently to close the vessel, and fixing it by a twist or half a twist around the needle. The wire with which the needle is threaded should be twisted that it may be readily distinguished. By means of this twisted wire the needle can be pulled out, after which the loop of wire is liberated, and can be easily withdrawn.

The fourth method or that by a long pin and a loop of passive iron wire, is a modification of the third, and differs from it only in a long pin, with a glass head, for facilitating its insertion, being substituted for the common sewing needle threaded with iron wire. Perhaps of all methods the third and fourth are the most secure. The principle in each is the same, but I like the modification of using long pins when convenient from the form of the wound, as they can be so quickly introduced, so readily withdrawn, and all wriggling and entanglement of different kinds of wires with each other avoided.

The fifth method, or that by the twist, may be varied according to the extent of rotation of the needle, whether to a half or quarter rotation. The operator has, on the cessation of bleeding, a reliable proof that a sufficient degree of rotation has been given to the needle. This method may be practised with a long pin or with a threaded sewing needle, and with either it can be very quickly done, but of all methods of acupressure that by the twist with a long pin is the quickest.

In acupressure by the twist to the extent of a half rotation of the needle, the three first movements given to the needle are precisely the same as in the third method above described—namely, it is entered on one side pushed behind the artery, and its point is made to emerge on the opposite side. The needle is then twisted over the artery and fixed in the parts beyond. In this method the artery is, to a certain degree, both twisted and compressed. The first time I tried the method by the twist, a half rotation was given to the needle; but as so little pressure, when direct, is sufficient to arrest hemorrhage, in other cases a quarter rotation was only made by it. The needle was sent by the side of the artery, a quarter rotation was given to it, and then secured by sending its point

into the soft parts. This is the simplest, quickest, and easiest of all the methods by the twist, more especially when done with a long pin, and as far as experience in the Aberdeen Hospital warrants an opinion, perfectly efficient. The gentlemen who were present in the theatre of the Hospital at the first operation where I tried acupressure by the twist were particularly struck with the great simplicity of this method as well as the facility with which it could be employed; but as the manœuvre with the small needle could not be distinctly seen from a distance, they were curious to see, after the removal of the patient, a demonstration I gave of this mode, in which I used a large needle and the mouth of the femoral artery in the amputated limb.

Professor Simpson used this method early in the history of acupressure in cases operated on by Dr. Handyside and Mr. Edwards, but he had published no account of it when the same method occurred as a perfectly original idea to the mind of Dr. Knowles, formerly House-Surgeon of the Aberdeen Hospital, suggested this method without the knowledge that it had been devised by Professor Simpson, and I felt anxious to give it a trial. I did so in the Aberdeen Hospital on June 29th, 1864, in an amputation of the thigh. This was the first instance in which the femoral artery was secured in this way. It is no part of the fifth, or Aberdeen, method by the twist to transfix the artery; on the contrary great care is taken to avoid doing so. It is important to be aware of this circumstance, that there may be no confusion between this method and the sixth, in which the artery is transfixed. In practising the Aberdeen method by the twist, the first movement of the needle may be made to consist of its insertion by the side or underneath the artery, as may be most convenient for having its head towards the edge of the wound when the quarter rotation has been made.—*Medical Times.*

PARTIAL DISLOCATION OF THE AXIS—RECOVERY—REMARKS.

Under the care of Mr. Hilton, at Guy's Hospital.

John S., aged 21, labourer, of St. Mary's, Gray, was admitted on May 26, 1865, under Mr. Hilton.

States that he has been ailing for the last three months; loss of appetite and general debility; has however followed his employment.

On Sunday, May 14th, he was stooping down to black his boots as they were on his feet, when suddenly he "felt a snap" in the upper and back part of his neck; he "felt as if some one had struck him there." About a quarter of an hour after he became insensible and continued so about half an hour; then he felt a stiffness and numbness of the back

and side of his head and the back of his neck, with a fulness in the throat and difficulty of swallowing. At first he had no loss of power over his limbs, only slight pain over his right arm; some days after admission, however, he had partial loss of power in the right arm, which shortly recovered itself.

On admission he carries his head fixed, and has pain on slightest attempt to rotate, flex, or extend the head; his jaw is partially fixed, and he cannot open his mouth wide enough to admit of a finger being passed to the back of the pharynx; his voice is thick and guttural; deglutition not attended by any great uneasiness. Complains of all the symptoms before enumerated. Externally over the spine of the second cervical vertebra there is a tumour hard and resisting, but tender on pressure: this is evidently formed by the undue prominence of the spine of the axis itself; the tenderness is not general, but circumscribed; the parts all round are numb. He was put on his back on a hard bed, his head but slightly elevated; a small sand-bag was placed beneath the projecting spine, and the whole head maintained in a fixed position by larger sand bags. He was ordered pulv. Dov., gr. v.; hydr. cum. creta, gr. iij., bis die. This was continued for about ten days, when his gums became affected slightly, and it was then omitted. Marked improvement has taken place in his general appearance, and more particularly in his special symptoms. He continued thus till July 3rd, gradually and steadily improving. He then had acute rheumatic inflammation of the right knee and elbow-joint, followed in a day or two by a similar state in the left knee-joint. There was no evidence of a pyæmic state. The joints were blistered; he has been treated with pot. nitr. and lemon-juice, and is now fast recovering. The tenderness and all the symptoms have disappeared, the protection still remaining, and he expresses himself as much relieved by the continued rest in bed.

Mr. Hilton, in remarking on this case observed that it has been demonstrated that the area of the vertebral canal might be diminished by one-third, provided that the diminution was slowly affected, without giving rise to any alarming, or indeed marked, symptoms of compression of the cord.

PENETRATING WOUND OF THE HEART. AUTOPSY.

By William H. Helm, M D.

The following statement of circumstances attending the killing of prisoner of war, private Benj Hurt, Co. A, Cobbs' Ga. Legion, with notes of an autopsy held May 8th, 1865, may prove of interest to some of the

readers of the REPORTER. It may be premised that this camp was established April 13th, 1865, and the prisoners were very efficiently guarded for some eight weeks, by a negro regiment.

About half past ten p. m., May 7th, I was sent for to see a prisoner who had been wounded by a sentinel. On arriving at the hospital, accompanied by Drs. Steinmetz and Fritz Act'g Ass't Surgeons U. S. A., and attached to this camp, I found him lying on his left side, with his knees drawn pretty well up, and his body bent forward. He complained considerably of pain in any position, and begged for some morphia. On examination I found a triangular shaped opening on the posterior portion of the thorax, two inches below the inferior angle of the scapula, and four inches to the right of the spine. On examination with the probe, I found that the probe ran down beneath the skin for two or three inches, but was unable to detect any opening into the thorax. The patient complained of pain, and no change of position seemed to relieve it. His pulse was good, but slightly accelerated. His respiration was very little, if at all affected. The expression of his countenance was slightly uneasy. There was a very slight oozing from the wound. After a consultation, we concluded that it was a non-penetrating wound of the chest. The wound was covered by a piece of dry lint, fastened to the chest by adhesive plaster. A grain of morphia was given him, with directions to give him half a grain in an hour if he was not relieved, and to send for the medical officer of the day, (who slept inside the camp,) or for me, if the man became worse. Towards morning he became delirious, and died about sunrise, without the ward-master having sent for any of the surgeons. The account given to the ward-master and one of the nurses by the prisoner is as follows: A little after 10 o'clock, p. m., he went down to the sink, which is built out into the river on piles, and has a gallery on two sides of it. The prisoners were in the habit of going out on this gallery to urinate. Ignorant of its being a violation of the rules to go to the gallery at night, he went out on it, and while in the act of urination the sentinel halted him. He turned to come back, and when opposite the sentinel, he heard an officer give the order, "Bayonet him," which the sentinel accordingly did. Hurt further stated that the stroke jarred him very much. I do not vouch for the truth of Hurt's account; for though there was a board of investigation, nothing further than its approval of the action of the sentinel was made public: therefore Hurt's is the only account I have. After being wounded, Hurt walked from the sink to the hospital, a distance of about 200 yards, assisted by the sentinel and the officer of the guard.

At my request Dr. Fritz made an autopsy at 10 o'clock on the morning of the 8th, at which were present the whole medical staff—eleven in number—except the surgeon in charge, also the chaplain of the regiment on guard, and the military officer of the day.

The triangular opening, as before stated, was four inches to the right of the spine, and two inches below the inferior angle of the scapula. On tracing the path of the bayonet, it was found to have gone downward and to the left, some two inches, beneath the skin, when it entered the ninth intercostal space. Upon opening the thorax, nearly its entire cavity was found filled with clots and semi-fluid blood, of a dark-red hue. The opening in the ninth intercostal space was found, and the further course of the bayonet was traced where it had torn through the outer and right edge of the intervertebral disc, between the ninth and tenth dorsal vertebra. The lungs were found to be uninjured. The pericardium contained a clot of bright-red hue, about the size of a large hen's egg, and several ounces of bloody serum. A small triangular spot was seen on the posterior portion of the base of the left ventricle. The probe sank into the triangular spot by its own weight merely, and on opening the left ventricle, it was found to be a penetrating wound of the heart. The opposite surface of the ventricle was entirely uninjured. The vena cava ascendens was probably pierced by the bayonet, though it was impossible to find the opening, owing to the dense fibrous clots surrounding the vessels and pervading the cellular tissue. This supposition accounts for the large venous hemorrhage, and is entirely probable, as the vena cava ascendens is in the course of the bayonet. As to why the bayonet took such a course, I cannot tell, but suppose the man must have been in the standing posture when struck, and stooped suddenly forward, or the sentry, having hold of the piece, after striking a downward blow, must have suddenly depressed the butt, thus giving the point of the bayonet an upward course.—*Philadelphia Medical and Surg. Reporter.*

REMOVAL OF THE ENTIRE SCAPULA FOR MALIGNANT DISEASE—CASE NOW UNDER TREATMENT.

(Under the care of Dr. Fergusson.)

S. H., aged 25, a very healthy looking young man, had noticed the present tumour for six weeks only, and it had been growing very rapidly up to the present time. It caused him no pain whatever, and the motions of the joint were not in any way affected. He complained that he felt a sense of numbness in his arm and hand owing to the pressure of the tumour upon the nerves in the axilla. The integuments covering the tumour were not affected, and were freely movable over it.

The patient being placed under chloroform, Mr. Fergusson first made an incision over the neck of the acromion process at right angles to it. The bone being exposed, a small saw was introduced, and the process detached. An incision was then made along the spinous process, and a third almost at right angles with this along the posterior border of the scapula. The flaps included by these incisions were next reflected, and the tumour was exposed, the muscles covering it being implicated in the disease in a great measure. Mr. Fergusson next seized the spinous process with the "lion forceps," and lifted up the mass in order to expose and cut through the capsular ligament of the joint. When this had been effected the forceps were applied to the axillary border of the bone, and it was thus lifted from off the walls of the chest, and the muscles cut through. A considerable amount of hemorrhage occurred at this part of the operation, owing to the division of the subscapular and dorsalis scapulæ arteries. The mass was still firmly held by the muscles attached to the coracoid process; these and the coraco-clavicular ligaments were divided, and the diseased scapula was removed. The articulation was perfectly healthy. The bleeding vessels were tied, the flaps brought together by sutures, strapping and a large pad placed over the wound, and the patient removed to bed.

In some after remarks, Mr. Fergusson said that he had left the small portion of the acromion as an attachment for the deltoid and trapezius muscles, and that the spinous process being thus divided, more room as given for manipulation and for command over the scapula during the operation. He had, moreover, left the attached muscles as entire as possible, and not cut them short round the joint. By the use of the forceps, first on the spinous process and afterwards on its external border, a great amount of purchase was exercised on the scapula, and the tissues were thus put upon a stretch, and their division more easily effected.

The tumour involved the dorsum, lower part of the spine, and under surface of the body of the scapula, the bone being completely perforated by the growth, the subscapularis muscle being a mass of medullary cancer; it was a process from this that caused the pressure on the axillary nerves. Up till the present time (July 14) the patient has been doing well, and the wound nearly healed.

CASE OF ABSCESS OF THE SPLEEN, DISCHARGED INTO THE LEFT LUNG.

By A. A. Mantell, M.D.

Abscess of the spleen is rare, and a termination by communication with the lung still rarer. J. D., European, aged 62, came under obser-

vation on January 31st, 1865. He had been a free liver, but generally a healthy man; had not been subject to fever, but had had a slight attack of ague before his present illness set in. He became ill five months ago, with sore throat and difficulty in swallowing; he also had pain in the right side of his neck. He grew worse, and on January 1st he was unable to masticate food, and his speech became thick. On January 25th he coughed up some dark coloured blood and matter of a very offensive character; from this time his breathing became difficult, a hacking cough set in, and he daily expectorated small quantities of blood and matter. When seen on January 31st he was sitting in a bent posture, his countenance was dusky, and his lips livid; he was at times delirious, and breathed with much noise and difficulty: he had a slight but frequent cough, and with it expectorated an offensive sanguino-purulent fluid, of a dark brick colour. He was free from fever; pulse strong, 84; tongue clean. He complained only of his throat, and pointed to it as the seat of pain; nothing abnormal, however, could be felt externally, or seen internally; there was partial paralysis of his tongue, which rendered his speech thick and difficult to be understood. His lungs gave no evidence of disease, resonance was good on percussion, and the only abnormal sound present was a mucous râle. No enlargement of the liver or spleen could be detected, and he did not complain of pain when his abdomen was examined by pressure and percussion. He died from hæmoptysis on February 1st. *Inspection* twenty-one hours after death:—On removing the trachea, pharynx, &c., the greater cornu of the hyoid bone of the right side was found in a state of caries, and the diseased part was surrounded by a small abscess, which had apparently burst into the upper part of the pharynx. The apex of the right lung was slightly adherent, and the bases of the both lungs were firmly adherent to the diaphragm, especially the left; their structure was healthy, but engorged with frothy blood and serum. Heart natural, with empty cavities. Liver smaller than usual; gall-bladder containing greenish bile, and one large black calculus. On endeavouring to remove the spleen it was found adherent to the diaphragm, and so soft and pulpy that it broke in pieces under very slight pressure; the cause of this was an abscess which occupied its structure, and was now nearly empty; the walls of it were thin, and what remained of the parenchyma was infiltrated with fetid matter, and blood of a brick-red colour, similar to that which had been expectorated during life. The abscess had burst into the left lung, a communication being established between it and the spleen. The fatal hemorrhage was due to rupture of a branch of the left pulmonary artery. The left kidney was hyper-

trophied; the right contained an abscess the size of a hen's egg.—*Brit. and For. Med. Chir. Review.*

ON HYDROCELE OF THE HERNIAL SAC.

By M. Velpeau.

A tailor, aged twenty-four, entered one of M. Velpeau's wards with a tumour on the left side of the scrotum, as large as a double fist, and situated below the external ring; it was soft, indolent, tense, fluctuating and irreducible. There was neither impulse on coughing nor transparency. It was prolonged by a pedicle, the size of the thumb, into the inguinal canal. The skin over the tumour was normal in appearance, and the testis was distinctly felt at the bottom of the scrotum. The man had worn a truss for several years for a hernia, which had never been completely reduced, a small swelling always remaining. Ten days prior to admission the truss had been broken, the tumour somewhat rapidly increasing in size, but without pain or inflammation. A portion of the hernia only could be returned, and the man came to the hospital. M. Velpeau, much influenced by the free fluctuation present, came to the conclusion that this was an example of an old intestinal-omental hernia; in which the gut had been returned, leaving only omentum—an effusion of fluid having also taken place into the sac. Six days after admission, the sac was punctured, and a reddish but perfectly limpid fluid having been discharged, the presence of omentum was ascertained. An iodine injection was then thrown in, and next day a pretty smart attack of inflammation occurred, accompanied by febrile action. This soon abated, and the patient went on very well, so that when he was discharged, three weeks after his admission, one side of the scrotum was scarcely larger than the other.

It was M. Velpeau who first conceived the idea of treating this form of hydrocele in the same way as hydrocele of the tunica vaginalis; of course, in such case inflammatory action is more to be dreaded, owing to the intercommunication with the peritoneum; but M. Velpeau, having found that iodine injections never give rise to purulent inflammation in closed cavities, determined to employ them in congenital hydrocele, taking care to compress the inguinal canal against the pubis. In the numerous cases of this kind in which he has employed these injections, he has never met with any accident, and he therefore naturally felt no hesitation in extending the practice to hydrocele of the hernial sac, in which the canal being plugged with omentum, the penetration of the iodine into the peritoneal cavity could scarcely occur. By this operation, also, conjoined with careful adjustment of a truss, the radical cure of the hernia may in some cases be effected.—*Brit. and For. Med.-Chir. Rev.*

Canada Medical Journal.

MONTREAL, SEPTEMBER, 1865.

THE METHOD OF EXAMINATION.

The most important business in our opinion, which will occupy the attention of the governors of the College of Physicians and Surgeons of Lower Canada, at their approaching semi-annual meeting, to be held at Quebec on the 10th of October, is the propriety of changing the method of examining the candidates for the College license. At present the plan followed is to appoint a Committee of four governors to examine the candidate, which is done orally; and in accordance with their decision, he is either received or rejected. As the number of candidates is generally considerable, this method occupies some time, and by several has been deemed unsatisfactory—hence a measure of reform has been suggested, and the means proposed to be adopted is as follows: The examination to be in writing—and the number of questions on each branch to be three, except on Medical Jurisprudence and Botany, upon which subjects two questions willl suffice. Three examiners are to be appointed (a different three on each), on every subject—except Botany and Medical Jurisprudence—which subjects shall only have two. The time allowed for answering question is three hours, and the examiners have the option of interrogating the candidate upon their written answers.

We have no doubt but that the talented proposer and very eminent seconder of the resolution at the last May meeting of the College proposing the above alterations felt that they were working in the right direction, but we most decidedly dissent from the proposed change. It will in our humble opinion defeat the very object, we believe, they have in view. So far as our knowledge obtains we are ignorant of any University, College or School, where the sole test required from a candidate is the satisfactorily answering a certain number of written questions upon the various subjects embraced in the Science and Art of Medicine. But we know of many where in addition to an oral examination, a written one is demanded. When we take into consideration the very small area, so to speak, which any three questions, even on every subject, can be made

to embrace, we can, it must be acknowledged, form a very unfair estimate, of the total amount of knowledge possessed by any student. At an oral examination, the candidate is usually examined about twenty minutes on each branch, and during that time, at least eighty questions can be put on some, and fifty on others. Can we for one moment compare fifty oral questions on midwifery—to three written ones—searching and important, as we fully admit, they can be made. It is true that the candidate *can* be interrogated upon his written answers—but beyond the clearing up of some point of the answer which may be obscure—we fail to see any advantage in it, in developing the knowledge possessed by the student. We admit that the present method of examination is open to objection—and grave objections too—but we believe the proposed alteration to be open to graver objections still. If the College would follow the plan adopted by older and therefore more experienced Colleges—they would add to the oral a written examination, and not *substitute* a written for an oral examination. Want of time—for both may be pleaded, as indeed it has been pleaded,—is one, if not the principal reason for a change from the present method—but such an objection ought not to receive a moment's consideration. What is worth doing, is worth doing well; and as the governors of the College occupy a most important public trust, we feel they should discharge that trust in a manner which will give the public confidence in the licentiates they send forth upon the country. Time with every medical man is precious—but by accepting the office of governors, they place themselves in a position, the claims of which for the time being, are paramount, and we feel that any complaint of want of time is not deserving of a great deal of consideration. Even should the majority of the governors think the proposed change desirable,—we sincerely hope they will not,—we would call attention to the fact that as the student will have to answer three questions on seven subjects, and two questions on two subjects—making twenty-five questions in all—three hours—the time allowed for answering—is, beyond a doubt, altogether too short. It gives simply eight minutes and a quarter to each question, a time, in which it is in our opinion simply impossible even to write an answer to such a question as should be given, much less give it that thought which it doubtless should have. Were the student a short hand writer—even eight minutes and a quarter would still, we believe, be too short. At the London College of Physicians, where the written examination extends over four nights (on the first and second professional—analagous to the primary and final examination of McGill University), only six questions are allotted to each evening, and three hours are allowed in which to answer them—thus giving half an hour to

each question—which is not the least too long. We trust the governors of the College will give this subject their most careful deliberations. The proposed change is not one to be lightly entered into—and we will be much disappointed if it is allowed at all.

We have to acknowledge the receipt of a long letter from Mr. Bulmer, a licensed chemist and druggist of the College of Physicians and Surgeons of Lower Canada, asking a number of questions, several of them being quite of legal character, on which we decline to express any opinion. We will, however, answer such as are in our power. 1. The bye-laws of the College of Physicians and Surgeons of Lower Canada are legal in Lower Canada, and prosecutions under them would be sustained, provided two witnesses to the same fact can be produced, and there be no flaw in drawing up the complaint. The amended bye-laws passed at the last triennial meeting will become law, immediately on their being signed by the Governor General. The licenses now issued to chemists and druggists are legal. 2. Every person, either physician, surgeon, chemist, or druggist, midwife, &c., will have to register on the books of the college, within three months after the publication of the amended bye-law; and it is our opinion that any one practising either as physician, surgeon, midwife, chemist or druggist, who has not the qualifications, by which he can register, must obtain it, or be liable at any time to prosecution as an unregistered practitioner. We do not, for a moment entertain a doubt that the license of chemists and druggists of the Lower Canada College do not give rights similar to those given by the Apothecaries' Hall of either England or Ireland, the licenses which are now recognised as giving the qualifications of a general practitioner. Their examinations are quite different from that exacted by the Lower Canada College for a chemist's or druggist's license. 3. Any licentiate member of any of the Colleges of Physicians or Surgeons of the mother country, on presenting himself for our license, must receive it without further examination. This is, we believe, the interpretation of the act, though we decidedly think it should be amended, so that persons having diplomas from the mother country (University diplomas excepted) should be compelled to pass an examination upon those subjects not embraced in their diploma. This matter will doubtless be taken up at the approaching meeting of the governors of the College. The other questions asked by Mr. Bulmer we do not feel ourselves competent to answer. To arrive at perfection is a difficult matter; and when we consider that in the mother country such a state of things has not as

yet been reached, it need not surprise us that in our new country there are still many things which require alteration. But of one thing we unhesitatingly express our opinion, and that is, that every one who deals in drugs, whether as physician, surgeon, midwife, chemist or druggist, should be compelled to pass an examination, and obtain his qualification, whereby the public may know they are dealing with a properly qualified person. And those who have done so, are but doing right when they call upon the College to protect them by prosecuting those not so qualified.

NEW MEDICAL SOCIETIES.

It is with pleasure we announce, that a Society has been formed in Montreal, for the reading of papers, and the discussion of Medical and Surgical topics—as well as the regulating of all matters of interest to the profession. It is styled "The Medico-Chirurgical Society of Montreal. The following is the list of officers that have been elected: President, George W. Campbell, A.M., M.D.; Vice-Presidents, E. H. Trudel, M.D., W. H. Hingston, M.D.; Treasurer, Hector Pelletier, M.D., Edin.; Secretaries, E. Lemire, M.D., W. Wood Squire, A.M., M.D.; *Council*, W. E. Scott, M.D., J. L. Leprohon, M.D., Robert Craik, M.D., J. E. Coderre, M.D., R. P. Howard, M.D. The Society meets monthly.

We are also glad to notice a similar movement among the profession at Quebec, a Society having been recently organised at the ancient capital. It is called "The Quebec Medical Society," and the following officers have been elected: President, F. A. H. Larue, M.D.; Vice-President,————; Secretary, L. Catellier, M.D.; Treasurer and Librarian, Jean B. Blanchet, M.D. It is the intention of the Society to establish a reading room, and to hold its meetings quarterly in the Laval University. We sincerely wish both Societies every possible success.

THE TURKISH BATH.

It may not be generally known to the profession in Canada that in Montreal we have in operation a Turkish bath where, under the direction of its proprietor and a proper assistant, a bath can be obtained at any time. We believe that many of our brethren in every section of the province will be glad of this information, and will now order any of their patients, whose cases would be benefitted by such a course of treatment, to the establishment at Montreal, instead of sending them to New-York, as has frequently been done. There is no doubt of the fact that the Turkish bath is a powerful therapeutical agent, and is capable of being

made very useful in proper hands, and under proper direction. In the mother country it has become thoroughly established, and in certain diseases—especially skin diseases, and those originating from checked perspiration—it has been found a valuable remedy. We are aware that much prejudice exists among some against the bath, but we believe this is due almost entirely to ignorance of its real character, and to the fact that many have put it forward as a universal panacea for all the ills to which flesh is heir. To such we would strongly recommend a little work of about one hundred and fifty pages, published by McLachlan & Stewart of Edinburgh, entitled: "The Roman Turkish Bath," by James Laurie, M.D., L.R.C.S.E. It is an able little review of the entire subject—one on which all medical men should be well informed. Of course the bath, like every thing else, is not suited to all—hence it should never be taken without a physician's orders—or without previously seeking a physician's advice. The bath in this city is owned by Mr. Arthur W. Alloway, of Coté street.

ACCIDENT TO Dr. PRESCOTT, R.A.

We have learned with much regret that Dr. Prescott, Royal Artillery, attached to the Battery now stationed at London, C. W., met with a severe accident early this month. He was out shooting, when his gun burst, shattering his left hand so severely, that it had to be amputated above the wrist. He is progressing very favourably. His many friends sympathise with him in his suffering, and wish a speedy recovery.

HYDROCEPHALUS.

The *British Medical Journal* says, that M. Bouchut, of the Children's Hospital, Paris, has called in the ophthalmoscope as a diagnostic agent in chronic hydrocephalus and rachitic state of the cranial bones. In chronic hydrocephalus, the early signs of the disease, he says, are often obscure; but the vessels of the eye always undergo appreciable modifications. In proportion as the serum accumulates in and compresses the brain, we find—1, an increase, of vascularity of the retina, with dilatation of the veins; 2, an increase of the number of vessels in the retina; 3, a complete or partial serous infiltration of the retina; 4, atrophy of the retina and its vessels; 5, atrophy, more or less marked, of the optic nerve. These lesions vary with the age of the disease and the amount of serous effusion. They result either from compression of the sinuses preventing the return of blood from the eye or from compression of the optic nerve within the cranium. But none of these lesions exist in rickets. In twenty-two children between five months and three years of age, exam-

ined by M. Bouchut, in whom the body was only slightly deformed, but in whom the head was increased in size and the anterior fontanelle open, and some of whom had, and some of whom had not had convulsions, the eye preserved its natural appearance. There was neither alteration of the pupil, nor any disorder of the venous circulation of the retina. Hence, he says, by means of the ophthalmoscope, we can distinguish between rickets and chronic hydrocephalus.

EXPLANATION.—*Answer to the Canada Medical Journal.*—Dr. John C. Johnson's operation for exsection of ankle-joint, reported in the April number of this Journal, was made February, 1862. Any one desirous of fixing the date more definitely will, no doubt, be supplied with the facts upon application; we are unable to supply them at present.—*Buffalo Medical Journal, June,* 1865.

A SURGEON TO HIS SWEETHEART.

Organization's loveliest flower,
My own that system let me call,
The heart of this is in thy power,
Chordæ tendinæ, valves, and all.
The corneæ of those globes of sight,
Diaphanous as morning dew,
Give passage to the rays of light
Reflected from each iris blue.

Above those orbits, mind is there,
Anterior lobe, os frontis full,
Beneath that scalp of raven hair
Mine eyes discern a perfect skull.
With smiles those muscles wreathe that face,
Matched with the lily, where the rose,
Just planted in its proper place,
Right o'er the buccinator glows.

Within the white and slender hand
Which that fair female subject owns,
How lax each ligamentous band
That binds the metacarpal bones!
Those bones, compressed, that hand, in sport,
Will let her slip that bracelet through:
Just as the humbugs Davenport
(Who've sloped) the rope-trick used to do.

Oh, may that hand's palmaris be
Stretched close as possible to mine!
And may our sentiments agree
Whilst our phalanges interwine.
Let then, to bind me to my bride,
With union ne'er to be undone,
The nuptial ligature be tied,
And Hymen's suture make us one.

ON A VISIT TO EUROPE.

Dr. R. Palmer Howard, Professor of Practice of Medicine in McGill University, left for a brief trip to Europe by the steamship, which sailed from Quebec on the 12th August.

We have received the first (August) number of the *Gazette Medicale*, published in this city in the French language, and edited by Dr. Dagenais and Dr. Lemire. It is evidently conducted in a very able manner, and we sincerely trust that not only will the mass of the French Canadian practitioners give it their support, but all who understand the French language. It will ever be a welcome visitor to our table. We wish our new contemporary every success.

Mr. Laurence, the senior surgeon of St. Bartholomew's, now in his 84th year, has resigned in his position. The "Lancet" pays tribute to his professional worth, but regrets that his retirement is not under circumstances which might have justified a warmer tribute to his unselfishness.—The entire value of the estate of the late Dr. Valentine Mott of New-York, is said to be $400,000. He left his anatomical museum to the New-York Medical College.—The Princess of Wales has given £50 to the hospital for sick children in London.

AN ENGLISH CURE FOR DRUNKENNESS.

There is a prescription in use in England for the cure of drunkenness by which thousands are said to have been assisted in recovering themselves. The receipt came into notoriety through the efforts of JOHN VINE HALL, commander of the Great Eastern steamship. He had fallen into such habitual drunkenness that his most earnest efforts to reclaim himself proved unavailing. At length he sought the advice of an eminent physician, who gave him a prescription which he followed faithfully for seven months, and at the end of that time had lost all desire for liquor, although he had been for many years led captive by a most debasing appetite.

The receipt, which he afterwards published, and by which so many other drunkards have been assisted to reform, is as follows:—Sulphate of iron, five grains; magnesia, ten grains; peppermint water, eleven drams: spirit of nutmeg, one dram; twice a day. This preparation acts as a tonic and stimulant, and so partially supplies the place of the accustomed liquor, and prevents that absolute physical and moral prostration that follows a sudden breaking off from the use of stimulating drinks.—*Druggists' Circular.*

CANADA

MEDICAL JOURNAL.

ORIGINAL COMMUNICATIONS.

Compound Dislocation of the Astragalus. Reduction and recovery with a useful limb. By JAMES A. GRANT, M.D., F.R.C.S., Edinburgh, &c., &c.

J. Moore, aged 35 years, a farmer of robust habit of body, June 24th, 1864, whilst driving a cart to the city his horse took fright, and he was thrown out with violence and dragged for some distance, his foot having caught in the wheel during the fall. He attempted to walk, but was unable, observing that he trod on the outside of the foot, at the same time the suffering was very great. The boot being removed, the following appearances were to be observed. The foot inverted so that the sole looked inwards, tendo-achillis not tense, the astragalus was driven forwards entirely out of its place, where it took a transverse position, and the anterior extremity protruded fully an inch through the integument on the outer side of the foot. On the upper part of the tarsus the skin was stretched tightly over the displaced astragalus. There was no fracture of either the tibia or fibula. There was very little surrounding effusion, so that the outline of the various parts could be well defined. The dislocated bone was thus wrenched from all of its connexions, and thrown transversly across the tarsus. An unsuccessful attempt was made to reduce the dislocation, by extension and pressure. The limb was placed quietly on the bed, and by moderate pressure the bone turned and shot into its place quite unexpectedly. An outside splint was forthwith placed on the leg, and a cold lotion applied over the ankle. An opiate was given at bed time, and the following day he entered the General Protestant Hospital. The cold water cloths were constantly applied until the 8th day after the accident, and then a purulent discharge from the joint having been observed, a linseed poultice was substituted. The discharge continued more or less until the end of August, at which time the wound

closed perfectly. The limb continued in a weak state until March 1865; he was then able to throw aside the sticks, and use the limb with considerable freedom.

From this date the parts gained strength, and at present he walks about as well as ever, and performs the various duties of farm life, the limb having regained perfect motion, the parts surrounding the displaced bone resembling in every respect those of a healthy joint.

"*Remarks.*"—Owing to the extensive relations and connexions of so important a bone as the astragalus, one would scarcely have expected so favourable a termination, more particularly as the bone was severed from its attachments with the os calcis as well as with the tibia and fibula. Le Gros Clark considers that such cases do not admit of reduction, and Gross (in his Surgery, vol. 2 p. 161) says, "I am not aware that the operation of reduction has ever succeeded, except in one case which occurred to Mr. Liston, and in which the accident was attended with fracture of the tibia and fibula, which had probably the effect of rendering the parts more movable?" This case may be considered somewhat unique, and tends to illustrate the great amount of injury which even this joint can sustain, and yet through time and proper rest recover its full power and action. After the accident the inflammation consequent upon so severe an injury, gave rise to considerable effusion around the joint. Just in proportion as the parts returned to a healthy condition, the surrounding induration of tissue lessened. Thus are we able to observe the beautiful operations of nature, by the inflammatory effusion forming no necessary part of the ultimate bond of union, but merely holding the parts in close apposition until such time as union of the original tissues became complete, the temporary splints of nature and art exerting each its part in the progress of the case.

Cases of Blenorrhagia, or Urethritis produced by Leucorrhœa and the Menstrual Discharge. By GEORGE E. FENWICK, M.D., Physician to the Montreal General Hospital, one of the Governors of the College of Physicians and Surgeons, C. E., &c., &c.

The question, does urethritis occasionally follow coitus at the period of menstruation, or during the prevalence of uterine blenorrhagia, has been in dispute for years. My own observations, extending over several years, are conclusive in the affirmative.

The following cases prove to my own satisfaction that such an occurrence can follow in many instances, not invariably so, because we know that leucorrhœa is a most common accompaniment of the pregnant state;

still coitus is constantly occurring during the prevalence of this leucorrhœal discharge, and yet with perfect immunity.

I have no doubt it has fallen to the lot of every practitioner to be the arbiter of a wife's criminality or a husband's guilt, as suspicions the most unfounded, calculated to ruin the peace and happiness of a family, have been time and again submitted to the decision of the physician. I do not wish to assert that a blenorrhagia invariably follows coitus during the menstrual flow, but that it will occur under certain circumstances or certain conditions of the male, wherein a greater aptitude for the reception of the impression seems to exist, or where, from some constitutional disturbance on the part of the female, the secretion, be it menstruous or leucorrhœal, becomes more irritating or acrid. These views are fully borne out by the experience and teaching of some of the first authorities of the day, among whom I may mention Ricord, Diday, Skey, Bumstead, and others.

During my pupilage, I met with two cases of undoubted blenorrhagia produced by having connexion at the menstrual period: one the case of a fellow student, who had connexion with a young person whom he afterwards married. It was remarkable, inasmuch as there could be no doubt of her virginity previous to the act: it was the second time only that she had menstruated; the connexion was fruitful; a marriage shortly after occurred, and they have lived together since.

Case 1.—G——, a gentleman residing in this city, had occasion to visit the neighbouring republic on business during the year 1855. While in one of the principal cities of the Union, he had criminal congress with a female, the wife of a gentleman of known respectability. The parties had been living together as husband and wife for several years, and were so at the time that this occurrence took place. The desire of the seducer was effected after considerable difficulty; and, on his return to his hotel, he noticed his clothes stained, and upon inquiry learnt that she was just recovering from her monthly illness.

The second day after his liason he returned to Canada, and sought the society of his own wife, little dreaming that his sin would he found out. The day following, which was the seventh after he had had the suspicious connection, he noticed a slight tingling in passing urine; this was accompanied by a weepy state of the lips of the urethra; a slight mucopurulent discharge followed. Being an old offender, he sought medical aid immediately, and was told by his surgeon that he had an undoubted clap. He was placed under treatment, and shortly recovered. In the mean time his wife suffered from symptoms of uterine blenorrhagia. She was placed under treatment, and recovered. He, of course, was thoroughly convin-

ced that the woman with whom he had connexion had communicated the disease to him. Months afterwards, having occasion again to visit the States, he found the lady still living with her husband; she declared she had never suffered from whites, and furthermore she had since given birth to a healthy child.

Case 2.—B——, a married man, consulted me on June 10th, 1857; he insisted his wife had given him the bad disease, as he termed it; he was very much depressed in spirits, and bent on a separation. Having known the parties for some years, I felt convinced of his wife's moral rectitude. He certainly had a most acute and decided attack of blenorrhagia, and suffered intensely both in body and mind. He himself was an exceedingly moral, upright man; he had never suffered from any disease: indeed I doubt very much if he had ever had connexion before he married. I questioned him closely, and with some difficulty elicited the fact of his having had connexion with his wife several days previously, and that he had discovered afterwards unmistakable evidence that she was unwell; still his mind was not relieved by my assuring him of the possibility of the disease occurring under such circumstances. He would not be convinced, but insisted on his wife undergoing an inspection; this was done, but no disease was discoverable. At the end of three weeks he recovered perfectly, without an untoward symptom.

Case 3.—McD——, a farmer of strict moral habits, consulted me in July, 1858, for a most decided blenorrhagia: his wife is somewhat elderly and of most exemplary conduct. There is little doubt of the truthfulness of the following account. Three weeks previous he had sexual congress with his wife, and at the time the menstrual flow had hardly ceased. Since that period he had slept in a separate bed, in his wife's room: it being the haying season, he was obliged to rise early and work hard, as he had a heavy crop, and very little help. He attributed the attack to the heavy work he had gone through, and I did not undeceive him; the disease yielded to injections, cleanliness and rest.

Case 4.—A gentleman consulted me July 30th, 1859. He stated that the day previous he had exerted himself rolling a barrel of flour up an incline; his foot slipped, and the barrel rolled back, striking him forcibly on the abdomen. This occasioned much pain at the time, chiefly referable to the region of the loins; the pain subsided in the course of a few hours. The following day he suffered from intense scalding and heat in passing urine, the lips of the urethra were red and inflamed, and there flowed a thick muco-purulent discharge. Upon inquiry he admitted having had connexion a few nights previous with his wife, and that in the morning he found his clothes much stained. Upon informing her of the

circumstance, she at first denied it, but upon more careful inspection, found it was so. She fancied herself in the family way, not having seen a change since she had weaned her last child, since which a period of four months had elapsed. The case was placed under treatment, and a speedy recovery resulted.

Case 5.—Joseph M., a French Canadian, consulted me in August, 1859. He had intense scalding on passing urine; there was considerable discharge, the lips of the urethra were of a dusky red, and looked as though they had been touched with lunar caustic. The edges were everted, and a slight superficial slough existed on either lip. He declared he had never had connexion with any person but his own wife; that he had several days before, while she was unwell. He ridiculed the idea of its proceeding from such a cause, as he had done so on several occasions before with immunity. He was put under treatment; a cold water poultice, with lint and oil silk, was applied, and he was ordered to drink freely of flax seed tea. At the end of a week he was quite well.

For the following case I am indebted to my confrère, Dr. F. W. Campbell:

George J——n, a somewhat respectable-looking man, presented himself at the Montreal Dispensary on the 20th June, complaining of a profuse discharge from the urethra, accompanied by a good deal of scalding on making water. States that he has been married about seven weeks, and that since then has not had connection with any one but his wife. On enquiry I ascertained that on the fourth week after marriage the menstrual discharge came on his wife, and lasted for several days and during that time he had frequent intercourse with her. Almost immediately after, the discharge made its appearance. The patient was ordered a weak injection of sulphate of alum, and in a few days he was cured.

I have selected these cases from others in my note book all bearing on the same point. Other causes there are which have undoubtedly occasioned an inflammation of the urethra with all the concomitants of such a condition in any portion of the mucous lining of the body, in other regions. Such causes, as enumerated by authors, are blows, the passage of instruments, urethral calculi, violent exercise, especially horse exercise if long continued, and in hot weather, which is very apt to be followed by a blenorrhagic discharge.

Druitt mentions a case of long continued irritation of the urino genital organs, attended with a discharge following a ride of several miles on horseback without a saddle. Certain articles of diet have been said to occasion a running, such as the continued use of salt meat, cayenne

pepper, ginger, the continual use of beer, and some persons are incapable of using asparagus in consequence of a similar result. Cantharides is well known to occasion stranguary attended with bloody urine, and sometimes a copious muco-purulent discharge. A case in point I met with some years since in the person of a young man, who had a violent attack of inflammation of the brain, of which he died. A blister had been ordered to be applied along the spinal column; this was done: but by error was left on for some thirty-six hours. Several days before death the urine was bloody, and there existed an abundant urethral discharge. During the persistence of certain diseases, such as of gout and articular rheumatism, a copious urethral discharge has been noticed, and vaginitis has been observed to accompany or follow the eruption of scarlet fever. There can be no doubt, therefore, that, although rare, blenorrhagia does occasionally occur independent of any specific poison, and that its existence is not alone sufficient evidence of moral delinquency on the part of either the male or female.

Montreal, 13th October, 1865.

HOSPITAL REPORTS.

Case of Diffuse Cancer of the Peritoneum. Reported by Messrs. William McCarty and John Bell, M.A.

History.—Mary Drew, unmarried, aet. thirty-three, servant, and a native of Ireland, was admitted into the Montreal General Hospital, February 14th, 1865, under care of Dr. Craik. Her parents generally enjoyed good health. Her father died at fifty of "liver complaint;" mother still lives. One of her sisters died at forty of dropsy.

She says that about the first of November last, she felt a pain in her right side in the region of the liver, which lasted until a short time ago. After this she began to grow weak. About Christmas she observed a tumour ("lump") in the left iliac region which caused no pain. For a year before the cessation of her catamenia, which occurred about the 14th of January, 1865, she suffered from an almost continual leucorrhœal discharge.

Symptoms on admission.—On admission a large tumour could be felt occupying the left iliac region and projecting across towards the right side but gradually diminishing in size, and terminating a little to the right of the pubes. To the touch it was hard and unyielding, and was evidently closely adherent to the surrounding parts. Its upper

border was sharply defined and perfectly smooth, resembling, in feel the lower border of an enlarged liver. There was evidence also of some serous effusion into the peritoneum above the tumour, though not to such an extent as to produce any serious distention. She complained of great constipation, and a constant desire to void urine without the power of doing so, the obstruction in both cases being apparently caused by the pressure of the tumour upon the rectum and bladder. On examining per vaginum, a dense hard mass was found at the left side of the pelvis tilting the os uteri upwards, and to the same side, and rendering it difficult to distinguish the different parts from one another. The uterine sound was introduced with some difficulty, and passed into the organ to the usual distance. The catheter was also passed into the bladder not without difficulty, the tumour pressing upon the posterior part of the pubes, and consequently upon the bladder and urethra. The general health was not much impaired, nor did she complain of severe pain, the constipation and difficulty in voiding urine being the principal symptoms.

The tumour was considered to be cancerous.

Progress of the case. *March 29th.*—Up to this time, the patient has continued in nearly the same condition as at date of admission, with the exception of the gradual increase of the tumour.

April 8th.—During the past week she has become much worse, and is now in a very low condition.

April 25th.—Since last note the patient has rallied, and now feels better than she has for many weeks.

June, 1st.—The patient during the past month has experienced an increasing difficulty in defecation, so that daily enemata have been required, and at the same time the desire for frequent micturition grows more urgent.

June 20th. The whole appearance of the patient is now indicative of great suffering. She is very much emaciated; countenance pale and sallow, with eyebrows drawn up.

Respiration sixteen per minute; expiration longer than inspiration, with a well marked rest between them, owing to the pressure of the abdominal tumour. Right side of chest resonant to the lower border of the fourth rib; left side resonant to the fourth rib. Pulse 105 per minute. Impulse of the heart diffuse, but felt most forcibly between the third and fourth ribs, and two inches to the left of the middle of the sternum. Heart sounds natural. The abdomen is very much distended with the tumour and serum, presenting the form of a hemisphere. The length of the abdominal wall, from crest of pubes to the ensiform cartil-

age, which is curved outwards, is eighteen inches. While the patient was in the sitting posture the following measurements were made:

Circumference at crest of ilium.....	44	inches.
" three inches higher.....	42	"
" the lower border of 3rd. rib.	32	"

In the middle line of the abdomen the well marked ridged edge of the tumour can be felt four inches above the edge of the os pubis, thence rising less rapidly on the left side than on the right where it becomes indefinable. The superficial veins of the abdomen particularly, but of the other parts of the body are very prominent, being distended with blood. The lower extremities and cellular tissue of the lower part of the abdomen very œdematous.

June 23rd.—Pulse 100. She now takes an opiate draught every night. Is compelled to micturate almost every hour, owing no doubt to the pressure of the tumour and fluid collected in the peritoneal cavity. Urine remarkably clear and limpid, and of the usual quantity notwithstanding her frequent calls to micturate. On examination *per vaginum* the wall of the upper portion of the vaginal canal and parts in its vicinity feel cartilaginous, or rather, as if moulded in plaster of Paris.

June 27th.—Pulse as before. Says she is becoming weaker. Suffers from continual thirst; tongue dry and red. Can lie only on her back with her head and shoulders well bolstered up.

June 30th.—Breathing more oppressed. She is compelled to assume the sitting posture in order to get any rest. Does not suffer from any well marked pain.

July 12th.—Pulse 106. Scarcely any change unless it be that she appears weaker and apparently worn out.

July 13th.—Died this morning.

Sectio Cadaveris.—The contrast between the thin emaciated chest and upper extremities, and the tumid white lower extremities is very striking. From these latter, on punctures being made, large quantities of clear serum trickled away. On opening the abdomen it was found to contain two and half gallons of clear amber coloured fluid. After this was removed, a very profuse deposit of cancerous matter presented itself. The small nodules, which were numerous, and the external parts of the growth were soft and white; the deeper parts were of a darker colour, tough and of a fibrous appearance, no doubt from the pressure causing an elongation of the cells into fibres. The hard edge of the tumour, before referred to, was formed by a growth of this abnormal tissue on the abdominal wall, bounded by the line already described. The omen-

tum was adherent at the sides to the abdominal wall, and at the lower border was fused into the general mass of cancer growth and intestines. All the fat was absobed from the omentum, so that it appeared like a net spread over the intestines, at the intersections of whose threads were formed little pear-like knots of white pliable matter. The peritoneum of the sides of the abdominal cavity and of surface of the diaphragm was thickened and studded with white prominent nodules of the same material. More of the liver was adherent than normal, and between the two adhering surfaces there was interposed a thick layer of the cancer growth. A layer of this substance glued together the two larger hepatic lobes. Patches of it of various sizes were also found scattered over the surface of the liver, which weighed two pounds and thirteen ounces. Gall bladder distended with greenish black bile. Several cysts containing from ℥ ij to ℥ vj of clear yellowish fluid were to be seen on inspection, and of these one of the larger was situated near the neck of the gall bladder and another in the right iliac fossa. Many more were found on cutting into the mass. On the left side of the posterior wall of the abdominal cavity the peritoneum contained nodules of this abnormal tissue.

The intestines were agglomerated into a solid mass with this growth which fills the false pelvis and raises up against the abdominal wall. It is almost impossible to separate the intestines from the cancerous mass, and on section of it they resemble the open mouths of the hepatic veins. It is difficult to recognise the different structures filling the true pelvis, from the effect of pressure and the abnormal tissue. The walls of the vagina are mottled by the deposition of black pigment. Cavity of uterus small with walls thickened and of a fibrous appearance. What seemed to be one of the ovaries enlarged, was situated between the uterus and the bladder, and contained an encysted fibrous tumour of the size of a hen's egg. Kidneys and spleen normal in appearance, except that the latter weighed only $2\frac{1}{4}$ ounces.

The contents of the thorax presented no striking pathological conditions. The right lung weighed twenty-six ounces; the left but twelve. The posterior parts of both were consolidated from hypostatic congestion. Heart small, weighing six ounces; left side flabby, right thick and firm. The superficial veins of it prominent, and the subserous cellular tissue of the left side œdematous.

The dura mater is very tough and adherent.

Microscopic Examination.—A section of the tumour shewed the characteristic multiform and multinuclear cells,. The fluid of the cysts contained numerous granule cells floating through it.

Remarks.—The cause of all the signs and symptoms presented during

life was discovered at the *post mortem* examination in this cancerous growth, which was thought to have commenced in some of the pelvic organs on the left side, probably the left ovary, and to have extended to the adjoining organs, gradually incorporating them into its own structure. It covered the iliac veins and pressed on them so as to prevent the return of the blood from the lower extremities, hence their œdema. The obstruction it offered to the vascular system of the intestines and peritoneum caused the effusion of serum into the abdominal cavity. The impermeability of the deep veins, on account of the encroachments of the cancer growth caused the blood to return to the heart by the superficial veins, hence their constant distention. It encased the intestines, particularly the lower parts, so as to impede the discharge of their function. It encroached on and finally bound down the bladder, so as to require its frequent evacuation. The presence of the tumour and such a large quantity of water forced up the diaphragm, thus compressing the lungs and causing the painful difficulty of respiration and the displacement of the heart already alluded to.

REVIEWS AND NOTICES OF BOOKS.

The Endoscope, as an aid to the Diagnosis and Treatment of Disease. By Francis Richard Cruise, Bachelor of Arts and Doctor of Medicine in the University of Dublin, one of the Medical Officers of the Mater Misericordæ Hospital. Dublin: Fannin & Co.

This pamphlet, of about 45 pages, contains an able article, which was first published in the *Dublin Quarterly Journal* for May, 1865. Since then it has been revised, and is now issued with additions. In opening his paper, Dr. Cruise alludes to the characteristic of modern medicine, viz., *the direct exploration of organs*, for the elucidation of their physiology and pathology. We have more than once stated our conviction that to this division is owing much of the progress which medicine has made within the past half century. The laryngoscope has done wonders in diseases of the throat, and laid the profession under a deep debt of obligation to Czermack and those who, after him, have worked steadily and perseveringly to illustrate the pathological conditions of throat affections as seen by this instrument. And now the endoscope, an apparatus by which the urethra, bladder, rectum, and other portions of the body inaccessible to the naked eye can be viewed, is attracting the attention of leading Irish surgeons. According to the manual before us,

there is some dispute as to who was the originator of the instrument in question; but there seems no doubt, from his own statement, that our author has for many years had the idea in his mind that it would be possible to view hidden cavities. He tried the instrument invented by Desormeaux, but the light being insufficient, he gave up; but lately after much thought and experimenting he obtained as much light as he required. He says: "Since then I have used the endoscope constantly, and have neglected no opportunity of extending my knowledge of it. Early in March last I showed it to Dr. Fleming of the Richmond Hospital, and demonstrated to him and Prof. R. W. Smith an organic structure of the urethra; and by its aid the urethra can be seen and minutely examined from its orifice to the neck of the bladder, each single species of disease ocularly demonstrated, and if need be, subjected to precise local treatment."

Before entering upon a minute description (illustrated) of the various portions of the endoscope used by him, Dr. Cruise, in the following general terms describes the instrument:

"In the first place, there is a tube or speculum, which is introduced into the cavity to be examined; and at one extremity of this a mirror of polished silver, perforated in the centre, is placed at an angle of 45°. The function of the mirror is to reflect the light, which is placed laterally into the tube, so as to illuminate it to the end. As the calibre of the tube is very small, a most brilliant light is required, and, in order to obtain the best effects, it should be made to converge slightly upon the mirror. This convergence is attained by interposing between the light and mirror a plano-convex lens of suitable focal length. The light being sufficient, the lens properly adjusted, the mirror bright and correctly placed with respect to the tube, it becomes a matter of facility for the eye of the observer, looking through the perforation in the mirror, to see clearly to the bottom of the speculum.....The brightest illuminations which can be obtained by any means is that given off by the *thin edge of the flat flame* of an ordinary petroleum lamp. Moreover, the steadiness and intensity of the light are manifestly increased by using an extra tall chimney; by enclosing the lamp in a lantern so constructed that atmospheric air *enters* from below only, thus causing an even draught; and by dissolving camphor in the petroleum, in the proportion of ten grains or more to each fluid ounce. The camphor increases the quantity of carbon in the petroleum, while the arrangements directed to procure a good draught secure its complete combustion."

Though of great use in many hidden cavities, our author thinks that in diseases of the urethra, it will prove most beneficial. "By its aid,

diseases of this part, otherwise merely subjects of conjecture and empiricism, are rendered clear as to diagnosis, and as satisfactory as to treatment as affections of the eye or any external portion of the body, patent to view." To illustrate this assertion of Dr. Cruise, we copy the following case of chronic granular urethritis :

"J. N., a gentleman aged twenty-four years, of strumous and delicate constitution, contracted blennorrhagia fifteen months ago. When almost entirely well of it he caught a second infection some months later. Now the disease showed itself obstinate, and, despite a vast amount of treatment, he retained a chronic discharge, with some scalding, some uneasiness in the perineum, and latterly he was annoyed by slight dysuria, and by a swelled and tender testicle. About the close of last February he placed himself under my charge. I at once carefully examined the urethra with the endoscope, from the neck of the bladder to the orifice. The condition of parts which I discovered was as follows:—The prostatic portion of the urethra was injected and slightly inflamed; the membranous portion was quite healthy; the bulbous portion was *ulcerated and granular*, exquisitely tender, and bleeding on the most gentle touch.....Having made a precise and satisfactory diagnosis, I proceeded, with the help of the endoscope, to cauterize the granular ulceration, commencing from before, and passing backwards. The case rapidly got well, and after six cauterizations, extending over a period of five weeks, the granulations were removed, and the endoscope catheter could be passed into the bladder without causing the slightest pain. The discharge and perineal uneasiness also disappeared, and the swelling of the testicle,—which I attribute to engorgement of the prostatic portion of the urethra, caused by the slight obstruction in micturition,—having yielded to strapping, has not shown the least tendency to return. Of the utility of the endoscope in this case I shall only remark that, in the first place, it enabled me to make a precise diagnosis at once, and subsequently greatly facilitated treatment. I do not know how I could have cured this case without its aid, because strong caustic solutions were required to conquer the granular ulceration of the bulbar region, and I could not have used injections of adequate potency without seriously damaging the anterior part of the canal, which was sound."

Its utility in diseases of the female urethra is illustrated by the following interesting case :

"The case is that of Miss H., a young female, who, for the past two years, has suffered atrocious pain during and after passing water. The urine is healthy, and nothing can be detected, by an ordinary examination of the parts, to explain the distressing symptoms. Latterly her

general health has given way to a certain extent from the excess and continuity of the pain. Having in vain undergone an endless variety of treatment, she lately placed herself under Dr. Smith's care, and by his request I saw her. An endoscopic examination, which was made with difficulty, owing to the nervousness of the patient, and the pain which it produced, revealed a morbid condition of the urethra, near the neck of the bladder. In this situation the passage, for about half an inch in length, was highly vascular, granular, and of the colour of a mulberry. The special treatment which naturally suggested itself, and was determined upon by Dr. Smith and myself, was thorough cauterization of the diseased part with nitrate of silver. On the 31st of March I performed this operation, with the assistance of the endoscope; it caused sharp pain, which lasted for some hours. However, the patient told me to-day (April 4th) that since the cauterization she had obtained more relief from suffering than she has known since the commencement of her disease. Encouraged by this success I repeated the application, and hope, at some future time, with Dr. Smith's permission, to record the termination of the case."

In diseases of the bladder, we believe the endoscope promises to work wonders, though our author's experience on this head is limited to two examinations, one on the living subject and the other on the dead body. The first was a case of hematuria, under Professor Macnamara, at the Meath Hospital, Dublin, who believed the disease due to a diseased condition of the vesical mucous membrane. The case was a difficult one on account of the rapidity with which blood exuded, rendering turbid the injected tepid water. Nevertheless, Dr. Cruise was able to illustrate to his own and Professor Macnamara's satisfaction the interior of the bladder. The condition of the membrane was highly inflamed, and in points ulcerated. Every gradation of colour, from pale rose to deep purple, and almost black, could be seen, and easily distinguished from the healthy. The examination on the dead body is thus described by our author:

"I have not chanced to meet with a case of stone since I have succeeded in making the endoscope practically available, therefore I have no positive results to show. However, my friend and colleague, Dr. Robert McDonnell, submitted my instrument to a test upon the dead body, which I think may fairly be considered an "*experimentum crucis*," and, in illustration of its capacity, I record the trial, for the veracity of which Dr. McDonnell is as responsible as I am myself:—He first prepared a subject by opening the bladder and introducing into it three substances of a nature the most unlikely to be thought of, and

respecting which I was in total ignorance. He then brought me to the body, and challenged me to tell with my endoscope what the articles in the bladder were. In a few minutes I was able to do so, and to demonstrate them to him. The articles were—a brass screw with a milled head, a short Minié bullet, and a mass of plaster of Paris."

We give great credit to Dr. Cruise for his valuable communication, and fully believe that owing to his able exertions a new era is about to dawn upon a class of affections, the difficulty of properly treating which is fully understood by every practitioner, under whose notice a large number of them have been brought. Empiricism must now give way to rational treatment, and many sufferers will yet bless the day that the endoscope was invented.

PERISCOPIC DEPARTMENT.

Medicine.

THE LOCALISATION OF SPEECH.

M. Velpeau has for the moment rather puzzled M. Bouillaud, who has again been ventilating, in the Academy of Medicine, his favourite theory of the localisation of speech in the anterior lobes of the brain. M. Bouillaud has, it appears, offered a prize to any one who can produce a case of lesion of the anterior lobes unaccompanied with affection of the speech. To this prize M. Velpeau says he thinks to lay claim. "No one," replied Bouillaud, "is more worthy of it."

"What I fear is," rejoins Velpeau, "that your prize will be like Delpech's. Delpech asserted that it was impossible to cure fracture of the neck of the femur without deformity, and offered 2000 *francs* to any one who could show him such a case. To all the cases, however, which were sent to him, he took exception; but, having at last become convinced of the fact, he announced in the journals that he had at length himself met with such a case, and had, therefore, adjudged the prize to himself!"

M. Bouillaud replied to the spiritual Velpeau, that he was not a Gascon,* though he lived near Gascony; and that he should certainly with pleasure give the prize when gained. The prize was small, it is true; but, if he had been in M. Velpeau's position, he would have made it ten times greater.

* Gascons are notorious jokers!

"As for the amount of the prize," replies Velpeau, "that signifies nothing; if I gain it, I shall give it to the Medical Benevolent Fund. My case is this:—In 1844, a most talkative *perruquier* entered La Charité for incontinence of urine. He was remarkable for his incessant loquacity, his jokes, and his cynicism. He died at the end of seventeen days, but never ceased talking. The day of his death he spoke, and answered properly all questions. This was nothing to suggest any disease of the brain. The brain was examined incidentally; and the anterior lobes were absent. They were in fact, both of them replaced by a tumour as large as a hen's egg, of a scirrhous nature. What says M. Bouillaud to this case?"

"If M. Velpeau will present me a similar case," was the reply, "I will give him the prize."

"Oh," says M. Velpeau, "the case is perfectly authentic, and on record. There is no need of a second case."

M. Delpech then joins in, and declares that he himself had made the autopsy; that he had presented the specimen to the Anatomical Society, and that the case was unanswerable. Says M. Bouillaud:

"I declare the fact impossible, and that the *interne* who made the autopsy witnessed a miracle! You may call me mad, if you please; but I will never believe that an injury of the two anterior lobes of the brain can exist without any disturbance of the speech or of the intelligence."

M. Velpeau: "I think M. Bouillaud is going beyond the limits of scientific discussion. It is a matter of indifference to me where the regulation of speech resides. I have no wish to upset M. Bouillaud's theories. But, after all, we must confess that we know very little about the functions of the brain; and it seems rash at present to localise a faculty in any particular part. As for a second case, I certainly shall not attempt to find one; it belongs to the future; and the demand reminds me of the amusing reply of the embalmer Gannal. He assured us that his process would preserve for two thousand years; and, when we told him he was joking, he replied 'Well, you will see!'"

M. Bouillaud then asked the Academy to appoint a committe to decide whether the prize was gained; but M. Velpeau, having told his tale, declined to have anything to do with it.—*Brit. Med. Jour.*

USE OF VERATRUM VIRIDE IN CONVULSIVE DISEASES.

By A. Greiger, M.D., of Dayton, Ohio.

After an experience of nearly ten years, by the profession, in the use of the "Veratrum Viride," its use in febrile and inflammatory diseases

is not so satisfactory as it was fondly hoped it would prove to be, when first introduced. Still it holds the first rank as an agent in controlling the action of the heart and arteries. But there is a class of diseases over which it exerts an influence which I regard as invaluable, and in which its curative properties may not have received that degree of attention, from the profession, that they are deserving of.

I allude to "Convulsive Diseases," depending upon undue excitement of the brain or nervous centres; such as puerperal convulsions, hysteria, mania-a-potu, convulsions of children, etc., etc.

I have used it in my practice for several years past, (and also others to whom I have recommended its use,) in the various convulsive diseases with the most satisfactory results; generally in a short time controlling the convulsive action, and restoring the patient to quiet and sleep.

The first case of puerperal convulsions in which I was induced to try its effects, was the patient of a brother practitioner, Dr. O. Crook, of this city. He had been called to his patient in the morning, a fine healthy-looking young woman, in her first confinement. He had bled her freely, before my arrival, which was at 9 o'clock, a. m. The convulsions were frequent and powerful, the os uteri but slightly dilated, no chance to deliver, and no prospect that the opportunity would offer for several hours I advised the administration of the veratrum viride. Four drops of the fluid extract were given, and repeated every two hours. The convulsions were partially controlled by the use of chloroform, administered immediately upon the approach of the symptoms of returning convulsions, until the influene of the veratrum was manifest. At 2 p. m., the patient was quiet; the convulsive action having gradually grown more feeble, and the pulse reduced to about 60 per minute. The labour progressed favourably until 6 p. m., when she was delivered of her child. The veratrum was continued in doses sufficient to control the action of the heart, until sensibility returned, which was some forty-eight hours after her delivery; after which time she had a good recovery.

I have since used it in two other cases with like success, and know of no remedy to compare with it in cases of this kind. I have also used it in hysteria; invariably controlling the spasms as soon as the patient was brought fully under its influence. Also in the convulsions of children; given in doses suited to the age of the child, it has always proved highly satisfactory, arresting, in a short time, the spasmodic action.

In all of the above diseases, we have increased action of the heart and arteries, with morbid excitement of the brain and nervous system, and whether it is the action of the veratrum as an arterial sedative, that produces its curative effects, or whether it does not also exercise directly a

sedative influence over the brain and nervous centres, is a matter for further investigation.

But in delirium tremens, I think it is destined to take the place of all other remedies, so prompt and satisfactory are its effects, and more particularly in those patients that are furious and uncontrollable.

Dr. Crook was induced to use it in a case of mania-a-potu, soon after seeing its effects in the case of puerperal convulsions above alluded to. The patient was a robust liquor-seller, and himself a good customer. He had had previous attacks, which had been exceedingly hard to control. In this case, when the doctor was called, he found the patient out in the yard, and it required the efforts of three men to prevent him running away. He was brought in, and four drops of the fluid extract of the veratrum administered and ordered to be repeated every two hours ; opium and other remedies having been previously administered, without effect. In a few hours, its effects were apparent; nausea and vomiting succeeded, and the patient reclined quietly in bed, and the following day, after a good night's repose, was about again. Another case, that of a sturdy blacksmith who had imbibed too freely, and who was so unruly that it became necessary to bind him, and tie him fast in the bed: after taking two doses of the veratrum, he went to sleep, and awoke the following morning to inquire of his attendants, "What they meant by tying him up in that style?" they being afraid to unloose him during the night. When informed what had been the matter, he coolly assisted in unbinding himself, and went to his shop as usual. Other cases might be related.

I have used it in one case of chorea. It was the first attack in a young girl of fifteen, and seemed to have come on without much previous warning. The muscles of the left side were principally affected by the convulsive action, and the patient was very much distressed. Not more than six drops of the fluid extract were given, until she became quiet, and the next day she seemed as well as usual. Emmenagogues were then given, and there has been no return of the chorea since.

I would say to any member of the profession whose attention may not have been called to the use of the veratrum viride in the cases above cited, *try it.* The result will be satisfactory.

A REPORT OF A RECENT CASE OF HYDROPHOBIA.

Several cases of hydrophobia have recently happened in the metropolis. We are indebted to Mr. Henry Summerhayes for the following, which has been lately under treatment at St. Thomas's Hospital. The commencement of the attack with priapism is remarkable; nothing of impor-

tance, and no fact likely to throw light upon this strange malady, was made out apparently from the post-mortem examination. Of the post-mortem appearances, fluidity, or imperfect coagulation of the blood, probably owing to some morbid change, together with a congested condition of the brain, spinal cord, and meninges, seem to be the most constant:—

H. R., aged 42, was admitted at 10·45 on May 23rd last, and the following history was obtained of him:—About six weeks previously he had burnt his face and both arms slightly with hot iron. Afterwards a little pet dog with which he was in the habit of playing had often licked his face and hands, as he had been used to do before. Later this dog had begun to snap at people generally, and had on that account been drowned. A second dog, a stranger, is remembered by a son of the patisnt to have seized the leg of his father's trowsers, some six weeks before about the time of the burns; the son does not suppose that his father was bitten, as he said nothing of it at the time. Nothing remarkable, or that excited the attention of the man and his relatives, occurred until Friday, May 19th, when being at work he was troubled much with priapism; in the night he was kept awake by priapism, and aching pain in the penis and testicles. It was the same on Saturday. On Sunday he is said to have become somewhat intoxicated early in the day; accordingly he went to bed early. During the night he complained very much of priapism and pain. He had no discharge at all from the urethra.

Monday, 22nd—He rose at 6 a. m., drank some hot tea and went to bed again; he ate nothing. At 1 p. m., he consulted a medical practitioner, who ordered him some salts. At 6 p. m. he returned to bed, and suffered much during the night from priapism.

Tuesday, 22nd. —At 5 a. m. he drank about an ounce and a-half of water, which he soon vomited; his wife made him some tea, but he could not drink it. At 11 a. m. he got up; was very bad tempered, and so unreasonably so that his wife thought him scarcely in his right mind. He was sweating very much all the day. At 8 p. m. he was ordered to St Thomas's Hospital by his medical attendants, and was admitted at 10·45 p.m.

On admission he was perfectly sensible, and answered questions readily. What struck one most forcibly on looking at him was the great difficulty he seemed to have in getting his breath; he would fling his head back and open his mouth wide, and gasp hard. At the same time he would point with his fingers to his throat, as if to signify that the cause of his distress lay there. The muscles of the fore part of his neck were seen to be rigid and contracted. The difficulty of breathing was not uninterrupted; there were short intervals of comparative ease and quiet.

when his respiration was attended with long-drawn sighing rather than with gasping. Quite suddenly a new paroxysm would end the brief remission of distress. He was bathed in a cold clammy sweat; his tongue was covered with a brownish fur; his pulse was weak, 112; his pupils were dilated. He was given some water to drink, but as soon as the cup approached his mouth a paroxysm seized him and he dashed the cup away. The mention of water induced a paroxysm. 11 p.m.—An enema, consisting of beef tea ℥ v., brandy ℥ j., tinct. opii ℥ i., was administered to him.

24th, 1 a.m.—The paroxysms had not abated; the enema had been retained; the pulse was stronger, 130. He was rational, and complained greatly of thirst. Nurse had watched him dip his fingers in water and struggle in vain to get them to his lips. 1·30 a.m.—A teaspoonful of brandy-and-water was given him, and caused a most violent paroxysm. It was observed that any noise in the ward or the effort to speak brought on paroxysms. 2 a.m.—Enema, tinct opii ℥ ii., beef tea Oss. 3 a.m.—There was no change, except that the poor man was considerably weaker. 5 a.m.—The enema was repeated, with the addition of brandy ℥ i. 5·30—He seemed to be trying to vomit almost constantly. The paroxysms were more frequent and more severe. 7·20—The enema was again repeated. 10·30 a.m.—He died exhausted.

Autopsy on the 25th inst. at 2.30 p.m.—No wound could be found on the body. The papillæ at the back of the tongue were prominent, and the submaxillary glands appeared somewhat congested; the mucous membrane of the pharynx was congested; the æsophagus appeared healthy, as did the larynx, trachea, and bronchi; the lungs were congested and slightly œdematous. The large veins were full of dark imperfectly coagulated blood. The diaphragm was very flaccid; its muscular tissue appeared healthy under the microscope, but appeared to break up very readily into ultimate fibres and fibrillæ.

INFLUENCE OF CALOMEL UPON DENTITION.

By Dr. Jules Champouillon.

Calomel, so precious in the treatment of infantine diseases, gave me, three years ago, a result which I did not seek, but which struck me, on account of the advantages to be derived from its use in cases of difficult dentition Two months ago a case of the same kind again presented itself, and this time, observer, watchful, and warned, I was able to follow the action of the medicine step by step.

First Observation.—On September 17th, 1862, the wife of a police-

man brings me, at the Hospital of Tlemcen, Algeria, her little daughter, suffering from an abscess in the anterior chamber of the right eye, consequent upon a blow received twelve days previously. The little patient, eleven months old, is of good constitution; she suffers but little from the eye. For the purpose of obtaining the re-absorption of the mattter, I prescribe calomel, divided according to Law's system. Forty-eight hours after administering the first dose the abscess has diminished, but the child slobbers, and the submaxillary ganglions are painful and somewhat tumefied, especially on the left. I wish to ascertain the state of the mouth. The mother then informs me that her child on the day of her admission into the hospital only had the lower median incisors, and that subsequently, that very morning, the two upper incisors had appeared. The gums are hot, red, and swollen. I continue the calomel, limiting myself, however, to a packet morning and evening. Two days later (the 22nd) the two lateral lower incisors have pierced the gum; the evening of the same day the left lateral incisor of the upper jaw shows itself in its turn. I then cease the calomel, for which I substitute a little chlorate of potash, notwithstanding the entreaties of the mother, who begs me to continue means "for so easily cutting teeth." The morning of the 23rd the upper left eye tooth has pierced the gum; the abscess of the eye has diminished one half. On the 29th the child quits the hospital, her mother alleging business. Eight days afterwards I again saw the little patient. Her eye was quite in the same state; her gums were still red, but no other tooth had appeared. Thus, in four days, six teeth made eruption.

Notwithstanding the idea of coincidence—which, for the first two teeth, I admit willingly—it seems to me difficult entirely to deprive the calomel of all participation in an evolution so rapid. The irregularity of the eruption, and, above all, its tendency towards one side, strengthens this opinion. Doubtless, the delay in the appearance of the teeth created conditions favourable to the evolution. I know, also, that the salivation ensued with a rapidity not usual with children; but may it not be ascribed to the fractional dose of the remedy? In refusing to continue the calomel, I was not unmindful of the danger there would have been in evolving germs not having as yet attained maturity, even if it could be done. Of course, for a simple delay without accidents I should not advise the use of calomel sufficient to affect the gums; but, in cases of difficult dentition, I should demand of mercurial salt rather than of any other medicine an action which might also produce some benefit in another point of view. Verily, the medication is known. However, I cannot but think that in cases of serious accidents, of dangerous com-

plications owing to difficult dentition, the administration of calomel actively pursued—more actively than is generally done—would produce a swelling and softening of the gums, which, by favouring the dental eruption, would counteract those accidents so rapid in their progress with children.

Second Observation.—On May 17th, 1865, a mother brought me her child, twelve months old, having the right corner clouded by extravasations of recent date. I examine the mouth. Of the two lower median incisors, one is through, the other ready to come through; the rest of the line of sockets does not announce a near evolution; no pain; no submaxillary swelling. The remedy is first administered on the 17th. On the 19th the child has taken twenty packets, containing altogether two grains of calomel. There has been no diarrhœa, but there is salivation. The gums are rather red and softened; not much ganglionary congestion. I cease the treatment on account of the state of the mouth and of the amelioration of the eye. That day the upper median incisors show themselves; then, the morrow (the 20th), the upper lateral incisors; at length on the 22nd, a lower lateral incisor, on which side I did not note. Thus, five teeth have appeared in four days.

Certainly, cases of spontaneous evolution as rapid as those cited are to be found. But it would be, at least, very curious that this rapidity should coincide with the four days' use of calomel, to cease so soon after, although the group cut remained incomplete and not symmetrical.—*Med. Times and Gaz.*

Midwifery.

MONSTROSITY IN A CHILD FOLLOWING A FRIGHT TO THE MOTHER IN THE THIRD MONTH OF PREGNANCY.

(Under the care of Mr. Paget.)

Whatever be the explanation of the fact, it seems fully proved to be by no means an unfrequent occurrence that women who have, during pregnancy, been subject to some strong mental impression, give birth to children with a deformity or defect which showed a marked likeness to the object that produced that impression. A large number of cases might be collected in support of this. It appears important, however, to notice that in the great majority of instances of this kind which are sufficiently authenticated to deserve attention, the maternal impression was not slight and soon forgotten, but powerful enough to induce a settled conviction of

what the result to the child would be. Dr. Carpenter, in the last edition of his work on "Human Physiology," says:—"No soundly-judging physician of the present day is likely to fall into the popular error of supposing that "marks" upon the infant is to be referred to some *transient*, though strong impression on the imagination of the mother; but there appear to be a sufficient number of facts on record, to prove that *habitual* mental condition on the part of the mother may have influence enough, at any early period of gestation, to produce evident bodily deformity or peculiar tendencies of the mind. The error of the vulgar notion on this subject lies in supposing that *a sudden fright speedily forgotten* may exert such a continual influence on the nutrition of the embryo as to occasion any personal peculiarity." Some very interesting remarks on monstrosity in children, with some remarkable examples of the condition, may be found in Dr. Montgomery's "Signs and Symptoms of Pregnancy." The subjoined case is offered as a contribution to the literature of this obscure and difficult subject.

A girl, 12 years old, was in Lucas Ward in the month of April last, for the treatment of an attack of lepra. She at once became a nine day's wonder in the hospital, under the name of the "monkey child," for it was found that the left arm and the greater part of the trunk presented a precise resemblance to the like parts of a monkey. The arm was long, thin, and withered looking, the scapula prominent, and the skin deeply stained with dark brown pigment, and covered with an abundant crop of lank tawny hair, some of which was nearly two inches in length—in fact, the likeness of these parts to the corresponding parts of a monkey was so complete that any one, judging by them alone, would almost certainly think she was a champanzee. Her mother stated that when she was three months pregnant with the child she was very much terrified by an organ monkey, which suddenly jumped upon her back as she was passing along the street.

The following remarkable instance was related by Mr. Paget, as he went round the wards, as having taken place under his own observation:—A person when pregnant with her first child chanced to shake hands with a man who, by an accident some years previously, had lost the middle fingers of the right hand, the index and little fingers, from long practice in grasping objects, having afterwards fallen almost into the shape of a lobster's claw. Being a nervous and very sensitive woman, she was startled and distressed when she became aware of the condition of the hand, and for several days she could not dismiss the recollection of it from her mind. When her child was born, it was found that the middle fingers of both hands, and the middle toes of both feet, were, absent. After an

interval of five years, during which she had had four perfectly formed children, and, being now pregnant with a fifth, she again encountered the man, and was again obliged to shake hands. She was so much disturbed by this occurrence, and so impressed with the idea that the child would be deformed, that in the evening she wrote down the event and her conviction regarding the child. When the child was born it was deformed exactly as the first had been.

LACERATION IN A NEW-BORN CHILD.

Mr. R. King Pierce showed to the Obstetrical Society of London April 5, 1865, a fœtus, born at full time, and exhibiting at birth two lacerations: one extending through the integuments transversely across the abdomen, about the level of the scrobiculous cordis; a second one across the throat, exposing all the vessels and muscles of the neck. The two lacerations had all the appearance of incised wounds; but the evidence was clear that they had not been produced by an act of violence other than of rapid delivery.—*Lancet*, June 3, 1865.

Materia Medica and Chemistry.

ON THE THERAPEUTICAL PROPERTIES OF HEMLOCK.

By Dr. Garrod.

Hemlock has long been employed in medical practice, but many complaints have been made as to the uncertainty of its operation. In the London Pharmacopœia the leaves are employed, and a tincture, an ointment, and an extract were made from them. But as the activity of hemlock depends upon the presence of a peculiar fluid alkaloid, named *conia*, which readily undergoes decomposition when exposed to the air, the dried leaves must lose their efficacy by keeping, and hence it appeared to the committee who prepared the British Pharmacopœia that the fruit should be substituted for the leaves in the officinal preparations, as the former contains conia in a more concentrated state. A juice of the fresh leaves, the *succus conii*, has also been introduced into the British Pharmacopæia, a little spirit being added to the liquid to prevent decomposition. The tincture of the British Pharmacopœia, termed tinctura fructus conii, is made in the proportion of two ounces of the fruit to a pint of spirit. Dr. Garrod has lately made a series of clinical experiments with hemlock, the result of which shows that it possesses far less energy than is generally supposed, but the tincture of the British Phar-

macopœia (made with the fruit) is more efficacious than that of the London Pharmacopœia (made with the leaves). Of the latter Dr. Garrod administered doses of from one drachm to half an ounce three times a day in about twenty cases, and latterly he gave a fluid ounce at each dose without producing any discomfort to the patient, who indeed exhibited no symptoms at all from the employment of the drug. The tincture employed was supplied by the most respectable pharmaceutical establishments. The tincture of the British Pharmacopœia, however, is more active; for in the case of the patient who took a fluid ounce of the London tincture for a dose, it was found that when the tincture of the fruit was substituted, five drachms were sufficient to cause the development of some symptoms, but these were only slight. Dr. Garrod considers, therefore, that the new tincture possesses at least twice the strength of the old, but that it is not very potent.

Dr. Garrod doubts very much the efficacy of conium in any form in relieving the pain or altering the diseased action in carcinomatous affections; but he thinks that in large doses it may be advantageously administered in cases of severe spinal disease, both structural and functional. In paraplegia, when there exists a sub-inflammatory state of the spinal cord, as indicated by pain in the back and startings of the limbs, hemlock is of great service; and Dr. Garrod has often seen the incontinence of urine checked by the drug. Conium appears to be beneficial where strychnia is injurious; and Dr. Garrod suspects that in very many cases of paraplegia, even when the ordinary symptoms or irritation of the spinal cord cannot be detected, some lurking action may exist which is aggravated by the employment of strychnia, but is generally soothed by hemlock. Dr. Garrod relates a case in which strychnia had been administered with the effect of aggravating the symptoms, and more especially the incontinence of urine, but in which the employment of hemlock in gradually increasing doses was followed by positive alleviation and eventual convalescence. The dose of the tincture of the British Pharmacopœia may range from half a drachm upwards, according to the nature of the case and the urgency of the symptoms.—*Medical Times.*

Surgery.

LIGATURE OF THE ILIAC ARTERY.

A case of aneurism is described in the *Dublin Medical Press*, having occurred in the city of Dublin Hospital, under the care of Professor

Wm. Hargrave, in which ligation of the left common iliac artery was resorted to. *Per se* the operation was successful, as the artery was entirely and permanently occluded, without the following of secondary hemorrhage. But the patient died from exhaustion, the result of pelvic abscesses and hemorrhage established in the aneurismal sac through collateral circulation.

Without going into a history of the case we give the account of the operation and of the autopsy.

Operation, April 29th, 1865. Patient well under the influence of chloroform before and during the operation. An incision was made from the point of the last rib, slightly curving downward to Poupart's ligament, mid-distance between the anterior superior spine of the ilium and symphisis pubis about eight inches long through the superficial fascia; the three broad muscles were next carefully divided from below upward and from angle to angle of the incision. Any hemorrhage was venous with the exception of the internal branch of the circumflex ilii vessel, which was sliced. A ligature was tied on each side of the opening, and the vessel divided. The transversalis fascia was perfectly *cleansed* and *free from any blood*; it was very strong. The smallest possible portion of it was pinched up in the forceps, and found by its transparency to be free of the peritoneum, which was divided on the director on the entire extent of the wound; the peritoneum was freely exposed, and the color seen beneath it. The peritoneum was removed from the iliac fossa to the mesial line of the body with the greatest facility, with more ease than in the dead subject it carried with it firmly adherent, the ureter. The aneurismal sac, occupying the external iliac artery, remained almost in a state of repose, *i. e.*, did not project into the wound, as has occurred in similar operations. It was well defined at the cardiac or proximal end, and corroborated what was ascertained before the operation, of dipping deep into the pelvic cavity, perhaps compressing the external iliac vein, so accounting for the great œdema of the entire of the left limb. The common iliac artery was now exposed and visible to the naked eye; the vein was not equally apparent. The separation between these vessels was easily effected with the finger nail, and a hempen ligature passed under the artery from within outward. In compressing it on the aneurismal needle, all pulsation on the aneurism completely ceased, *it becoming so flat as to have disappeared*. The genitor-crural nerve was embraced by the ligature in the first instance, from *which it was excluded*. The extreme sensitiveness of this nerve was evident from the fact that when very gently touched, to free it from the ligature, the patient was roused to perfect consciousness from a deep anæsthetic sleep. This occurred twice.

The artery was tied about half or three quarters of an inch above its division into the external and internal iliacs.

The patient died July 11th, seventy-third day after the operation.

Post mortem examination, (Drs. Tufnell and Croly.) An incision made from umbilicus to symphisis pubis, and an other from same point to ant. super. spinous process of the ilium. Muscles and fascia traversalis next divided; intestines adherent in left iliac fossa, by firm bands of lymph, the result of inflammation. The intestines being drawn up, the fascia iliac was exposed, covering the iliacus internus muscle; ureter was observed crossing the anterior surface of the common iliac artery, just at its bifurcation. The aneurismal tumour which was soft, and fluctuating to the touch, measured five inches by two and a half behind, and to its outer side lay the anterior crural nerve, flattened and expanded. The abdominal aorta was exposed as high as the origin of the inferior mesenteric branch; it presented a normal appearance as regards size; an inch above its bifurcation into the common iliaca, a calcareous deposit about the size of a four penny piece was seen protruding through the coats of the artery; it occupied the right side of the vessel.

The left common iliac artery (that on which the ligature was applied) was much smaller than the corresponding artery of the other side; there was a fibrinous clot in it just below its origin from the aorta—the vessel was severed by the ligature, half an inch above the bifurcation into the internal and external iliacs. On passing a probe through the internal into the common iliac, it was stopped by the adhesion of the vessel at the distal side of the ligature. The same occurred on passing a probe through the aorta into the common iliac. The common iliac vein was closely adherent to its artery, and the external vein was pressed on by its artery. Femoral artery and vein healthy, and of natural size. Iliac fossa unusually dense, and closely bound to the vessels; a large oval lymphatic gland occupied the left side of the common iliac artery, which was seen during the operation of a bluish color. The pelvic cavity was filled with unhealthy pus; the pelvic bones sound and not indented by the tumor, Internal epigastric artery slightly enlarged. A probe passed through it into the aneurismal sac touched a soft fibrinous clot. Walls of sac thin.

The aneurism was egg-shaped, the larger end downward, and a little inward, measuring five inches in length, three and three quarters in depth, and extended from about one inch from the origin of the external iliac artery, *which was enlarged* to within one and a half inches of the profunda covering the external iliac vein for about two inches of its course externally and posteriorly. The tumour, on being laid open for the entire of its extent, contained at its two superior thirds a very soft greyish fibrin-

ous clot, but not distending it; in the inferior third was a soft black blood deposit, scarcely to be considered a coagulum being so friable. The aneurism communicated with the external iliac vein by a well defined oval opening of about one quarter of an inch in diameter, situated a little below the middle of the tumour on its internal and posterior aspect. The epigastric, slightly enlarged, could be traced backward to the same opening, the arterio-venous of the internal posterior opening of the aneurism, *and seemed to form prior to its communication with the aneurism, a small cavity, capable of containing a bean, which was filled with fluid blood.*

This examination shows the case to have been one of aneurismal varix (or arterio-venous aneurism), in this case being a spontaneous formation (in contradistinction to the traumatic variety), which has been recorded by Bransby, Cooper, Perry, and Prof. Porter, affecting the femoral vessels, being a primitive disease, the result of thinning of their coats. This rare variety was surmised early in February, for combined with a well-marked *bruit de souflet*, there was also a most remarkable vibratory thrill which was occasionally so loud and strong as to mark the proper aneurismal bruit. This surmise was fully confirmed by the examination, which presented as described a well-marked complication of the direct communication between the vein and artery, and still more complicated by the direct entrance of the epigastric artery into the inferior part of the aneurism.—*Philadelphia Medical and Surgical Reporter.*

PHILEGMONOUS ERYSIPELAS OF THE UPPER EXTREMITY, AND SUPPURATION OF THE AXILLARY GLANDS FOLLOWING A PUNCTURE OF THE FOREFINGER; AMPUTATION; RECOVERY.

The amputation of a limb is often unjustly looked upon as an opprobrium to surgery. But when we consider that the end achieved is the preservation of life, and the removal of a limb whose integrity is destroyed, we think the operation deserves to be classed with the happiest results of conservative surgery. In the case about to be related (from notes by Mr. Alderson, house-surgeon) the usefulness of the limb was gone, and the patient would infallibly have sunk had not amputation been resorted to. A point of interest was that the man was a reformed drunkard. Now Virchow states that the drunkard's dyscrasia does not persist if the cause be removed, and the present instance would certainly seem to confirm that statement, for no one could have exhibited greater reparative power after an operation than did this man.

James G——, aged forty-five, a wiry, healthy looking potman, was admitted into West London Hospital Aug. 3d. A fortnight previously,

he came to the out-patients' room with a whitlow of the right forefinger, produced, he said, by a scratch from some rusty metal. He had formerly been a great drinker, but for the last two years had led a very temperate life. A free incision was made into his finger, which was fully twice its natural size. At his next visit he expressed himself as free from pain, and the inflammation in the finger seemed nearly gone. On Aug. 3d he presented himself at the hospital, and said that a few days ago, when the finger was nearly well, it was attacked with inflammation, which rapidly spread. His countenance was very anxious, his tongue furred, and his pulse quick and feeble. It was evident that he was suffering from great constitutional disturbance. The hand was greatly inflamed, and there were red lines extending along the inside of the limb to the axilla, where a mass of enlarged glands could be felt, and any pressure on them caused him much pain. He was at once admitted into the hospital. A poultice was then applied to the finger, and the entire limb wrapped in hot fomentations. He was ordered a mild purge, and to be well supported with beef tea and stimulants.

Aug. 5.—The limb had yesterday become so brawny that the house-surgeon made several incisions into it, so that to day the redness and tenderness are much lessened.

9th.—The size of the arm is much diminished, but the skin looks of a dead leaden colour, and it is evidently extensively undermined. The axillary glands are suppurating. The man has lost flesh, and looks anxious.

16th.—The skin over the dorsum of the hand and all along the outer side of the limb has sloughed away, so that the extensor tendons are exposed almost as clearly as if they had been dissected out. The man's pulse is weak, and he emaciates from day to day.

19th.—The muscles along the inside of the arm are nearly exposed, the skin hanging in tatters at places. As the man was now in a very precarious condition, Mr. Teevan determined, after consultation with his colleagues, to remove the limb, as the only chance of saving life. Accordingly, the patient was put under the influence of chloroform, and the arm was amputated just below the shoulder-joint, by a long internal flap and a short external one, as the sloughing had extended so much higher on the dorsum of the limb along the inside. A few hours after the operation the man smiled, and said he was very comfortable and quite free from pain.

20th.—Slept very well last night; tongue clean; appetite good.

From this date he made a most rapid recovery, the wound was healed in three weeks, and he left the hospital at the end of the following month, looking strong and well.—*Lancet.*

Strumous Disease of the Shoulder-joint; Resection; Good Recovery.—Resection of the shoulder-joint is a comparatively rare operation, although we have placed several cases on record where it has been performed in adults with a very fair share of success, indeed more so than occurs with respect to almost any other articulation. In the child it is still more uncommon, but through the kindness of Mr. W. Travers, the resident medical officer, we are enabled to publish the following successful example in a little girl, aged four years:—

C. R——, aged four years, of the dark strumous type, was admitted into Charing-Cross Hospital, the children's ward, on Oct. 10th, 1864, with strumous disease of the right shoulder-joint. The mother stated that about two years since the child had been ill with measles, from which she apparently perfectly recovered. Some two months after the attack had subsided it was noticed that she cried if the arm was roughly handled, and at length could not bear the joint to be moved at all. She also moaned a great deal during her sleep. At this time the shoulder did not appear in any way swollen or inflamed. The symptoms continued for twelve months, the pain evidently becoming gradually worse. The child now, too, became pale, thin, and capricious. At the end of the twelvemonth the joint was noticed to be swollen, but not red; the swelling slowly, yet certainly, increased; the pain was more constant. At the expiration of four months from this time, an abscess formed in the axilla, burst, and discharged freely. The child was placed under medical treatment, but without benefit, and, after remaining eight months longer, gaining no relief, she was brought to the hospital by her mother, and admitted as above.

On admission, the shoulder was found swollen, and the structures apparently thickened; movement much impeded, and causing great pain. A sinus still remained in the axilla, from which exuded thin pus. The child look wan and ill; her countenance spoke of constant pain and anxiety. The limb was confined, and kept at perfect rest; and tonics, with good nourishing diet, ordered to be given. Opiates, as far as practicable in so young a subject, were given at night; yet her nights were broken and fitful. This treatment was pursued for upwards of a month; and although the child's general health was very much improved, the disease seemed in no degree stayed, but rather increased. A probe passed along the course of the sinus proved the head of the humerus to be extensively diseased. On Nov. 19th Mr. Canton removed the upper part of the bone, to the extent of about an inch and a half, together with a portion of the glenoid cavity, which was also found to be affected. The horse-shoe-shaped flap was employed. The structures around the joint

were found thickened, and apparently in a state of strumous degeneration. But little blood was lost during the operation, and no vessel needed a ligature. The edges of the wound were adjusted, and kept in position by the aid of sutures. A pad was placed in the axilla, and the arm gently yet firmly bandaged to the body. No bad symptom followed the operation, and the child slept sounder the first night after than she had done for a very long time. In the course of a few days her appetite improved, and the countenance lost its former constant look of pain. At each daily dressing the wound discharged a small quantity of healthy pus, which gradually became less, and has now entirely subsided. At this date (three months after the operation) the wound has quite healed, and a fair amount of motion is obtainable. The child complains of no pain, and her health is greatly improved.—*Lancet.*

ON THE PATHOLOGY OF TETANUS.

By J. Lockhart Clarke, F.R.S.

In this communication, the author described the condition of the spinal cord in six cases of tetanus. In every one of these there was not only more or less congestion of the bloodvessels, but there were also definite, and frequently extensive, lesions of structure, such as had never yet been discovered. These lesions consisted of disintegrations of tissue in different stages of progress, from a state of mere softening to that of perfect fluidity, and were accompanied by certain exudations and extensive effusions of blood. They were found chiefly in the grey substance, which, moreover, was in many places strangely altered in shape—unsymmetrical on the opposite sides, or partially fused with the adjacent white column in a common softened mass. Although lesions of this kind existed in one form or other, in every *region* of the cord, they were absent in some places, nor did they ever, together, for long maintain the same shape, size, or appearance, but were constantly and alternately increasing, diminishing, or disappearing, at short but variable intervals.

These lesions in tetanus were precisely similar in character to those which the author had discovered in the spinal cords of many ordinary cases of paralysis; and on comparing the lesions and symptoms of both kind of diseases, he found ground for the support of the following conclusions. 1. The lesions are either not present or are present only in a slight degree, in those cases of tetanus which recover. 2. They are not the *effects* of the *great functional activity of the cord*, manifested in the violent spasms, but are the effects of a morbid state of the bloodvessels.

3. They art not alone the *causes* of the tetanic spasms. 4. The tetanic spasms depend on *two separate* causes—firstly, on a *morbidly excitable condition of the grey substance of the cord*, induced by the hyperæmic and morbid state of its blood-vessels, propagated from the injured nerves, and resulting in exudations and disintegrations of tissue; and, secondly, on *irritation* propagated and spread through the morbidly excitable cord from the same source—from the periphery, by the diseased nerves.

Mr. Brooke thought the facts brought forward by the author tended strongly to support the views of Dr. Radcliffe on muscular action. He should say that they pointed to the conclusion that in tetanus the disintegration of the spinal cord must necessarily imply diminished, not exalted functional activity.

Mr. Durham had examined on the plan introduced by Mr. Clarke, the spinal cord of a patient who had died of hydrophobia. He found intense congestion with extravasation in the dorsal region, but congestion only in the lower parts of the cord.

Mr. Gant referred to a *post mortem* examination of a case of tetanus, in which a very large quantity of blood was found in the vertebral canal. To the naked eye the cord did not present any remarkable appearance; it was very elastic.

Dr. Althaus asked the author how many cases of tetanus he had examined, as in some cases in which the cord had been examined no changes had been found.

Dr. Harley thought the Society was deeply indebted to Mr Lockhart Clarke. They were indebted to him because he had opened a new field Until Schroeder van der Kolk began his investigations, nothing had been done in this way. He (Dr. Harley) thought that with the researches of Clarke a new era in the study of nervous diseases had commenced. We still hear of insanity as a disease of the mind, and as if it were nothing more than mere functional derangement. He thought, however, that such phrases as "functional derangement" were doomed. "Functional derangement" was but an apology for our ignorance; catalytic action was something we do not understand; "vital action" a cloak for our ignorance. He believed that, thanks to Lockhart Clarke, such terms would disappear, and he could but half express his great obligations.

Mr. Lockhart Clarke, in reply, said that the observations described in the paper were made on the spinal cords of six cases of tetanus; and that since the communication of the paper he had examined the cords of three more cases, with precisely similar results. The lesions and alterations of structure, though numerous, were in some places exceedingly small, and appreciable only under glasses of considerable magnifying power.

AMPUTATION AT THE ANKLE BY AN ANTERIOR FLAP.

At a meeting of the Medico-Chirurgical Society of Edinburgh, Dr. P. W. Watson shewed a specimen of comminuted fracture of the tuberosities of the os calcis, produced by direct violence. It was attended with extensive laceration of the soft parts, and required amputation to be performed at the ankle-joint. This, as the soft parts forming the ordinary heel-flap were destroyed, he effected by dissecting up the soft parts from the dorsum of the foot as far forward as the instep, and having completed the disarticulation, and sawn off the ends of the tibia and fibula, this flap was folded down, forming a long anterior flap, exactly as in the amputation in the lower third of the leg, according to Mr. Teale's method. The operation was undertaken as affording a more satisfactory site for division of the bone than the amputation in the lower third of the leg, although the resulting stump in such a case could not be expected to be capable of sustaining the weight of the body as in the method by the heel-flap.

GUNSHOT-WOUND OF THE BLADDER.

Dr. Van Buren of New York relates the case of L. L. J., a merchant, aged 40, of good constitution, who was shot through the bladder during a riot on July 16th, 1863. The accident occurred at 5 p. m.; and, as he had not emptied his bladder since 9 a. m., the organ was distended. Half an hour after the injury, Dr. Van Buren found him pallid and moderately collapsed. He stated that, when struck, he felt as if a foot-ball had hit him in the abdomen; and that, on putting his hand to the part, he found himself deluged with urine. There was a wound an inch and a half to the left of the median line, and two inches above the brim of the pelvis. The forefinger could be passed to its full length into the wound, and moved freely in any direction in a cavity behind the abdominal walls, but nothing could be distinguished but coagulated blood. Nothing abnormal could be discovered from the rectum. The bullet (an ounce musket-ball) was found under the skin of the right buttock, about an inch above the ischiatic notch; it was removed through a simple incision, which healed in a week. The abdomen was soft, natural, and not tender; there was slight pain; there was strong and frequent desire to pass urine, but none came through the urethra—a little escaping from time to time through the abdominal wound. It was decided not to introduce an instrument *per urethram*, but to favour the escape of urine through the wound; and to give a fourth of a grain of sulphate of morphia every second hour, with beef-tea, and a moderate amount of ice

and water. The only dressing applied to the wound was a moistened rag. The progress of the case was unattended by any unfavourable symptoms; the morphia was suspended on the eighth day, when half an ounce of castor-oil was given, which produced two copious stools, unaccompanied by pain or blood—the first since the wound was received. On the seventh and eighth days he passed some urine by the urethra; but as it was followed on one occasion by a severe pain in the right thigh, he again emptied the bladder through the wound until the fifteenth day, from which time he voided urine every three or four hours by the natural passage. The wound, which had become coated with urinary salts, now became clean, and on the twenty-second day was quite healed. (*New York Medical Journal*, May, 1865.)

GANGLION OF THE WRIST.

Ganglion of the wrist, also termed hygroma and synovial cyst, is a tumour of varying nature. It may be the result of a hernia or protrusion of a tendenous sheath, or of an articular synovial membrane; it may consist in a closed cavity, or in a cyst entirely unconnected with synovial structures, or a bursa, whether original or created by friction. The tumours situated at the back of the wrist are different in nature from those which occupy the front. Mr. Chassaignac has shown that, when the ganglion is found on the palmar aspect of the wrist, it is not unfrequently formed by an appendage of the articular synovial; whereas, at the back of the hand, MM. Gosselin and Michon's dissections teach us that the tumour consists in small cysts resulting from the enlargement of a brusa, the existence of which was long unsuspected. On the posterior surface of the wrist, the tumour is always situated in the same spot—viz., opposite the insertion of the extensor carpi radialis brevior into the base of the metacarpal bone of the third finger. Near this insertion is placed a bursa analogous to that which exists beneath the tendo-Achillis, and, under the influence of local irritation, the cavity acquires unusual size, and forms what is termed hygroma.

Under these circumstances, it is not surprising that crushing the ganglion with thumbs, or a watch seal, is not an infallible cure. After its rupture the bursa forms again, even when methodical pressure has also been used. The same remark applies to puncture, and to subcutaneous laceration. If the contents of the cyst were merely of a serous nature, iodine injections or electricity might, as in hydrocele, effect a cure; but it is generally filled with a thick fluid, often mixed with blood,

and the two powerful methods of treatment alluded to are, therefore, resorted to in vain.

M. Jarjavay had recourse to the plan advocated by Bérard, jun., who, after incision of the skin, dissected the wall of the cyst as far as possible, and removed the tumour, even at the risk of exposing the tendon. In order to avert inflammation and its consequences, the wound was closed by first intention. Gentle pressure was exercised by means of a soft lint padding, secured with adhesive plaster, and a stream of cold water flowing from a reservoir, placed above the bed, was allowed to run permanently over the wrist.

This operation was performed a fortnight since, on a girl aged eighteen. Six days afterwards, although the cold douche was still persevered in, a complete cure was effected.

The same treatment has been applied with equal success by Mr. Jarjavay in twenty-three other cases.—*Journal of Practical Medicine and Surgery.*

ONYCHIA.

Our readers are well acquainted with the various proceedings devised by the ingenuity of surgeons for the relief of the sufferings induced by what has been termed the growth of a nail into the flesh. The method recommended by Mr. Long was recently applied by Mr. Jarjavay with admirable dexterity and results most satisfactory. No preparations are necessary for this operation, nor bandages, nor local anæsthetic measures; it is performed in the simplest manner with a common spatula.

The patient having been placed in a sitting attitude, the surgeon grasped the foot in the left hand, and firmly secured the great toe; and with a spatula, held like a pen between the thumb and the two first fingers, gently raised the skin at the root of the nail; having reached its posterior edge at the bottom of the groove of the follicle, he rapidly inserted the spatula beneath the nail, which he raised and detached in a moment.

In his "Manual of Operative Surgery," M. Malgaigne expresses his disapprobation of the procedure, which he asserts has not succeeded with him: he states that it is of difficult performance, and exquisitely painful to the patient. This may be the case, but we cannot believe that, had Mr. Malgaigne proceeded in the same manner as Mr. Jarjavay, he might not have effected a similar result. The facility with which the nail may thus be removed is accounted for by the fact, that its attachment to the subjacent surface is close in its anterior part only, and pain is, therefore, experienced, but at the conclusion of the operation. It is moreover tran-

sient, and can bear no comparison with that induced by the forcible introduction of scissors beneath the nail in a region copiously supplied with nerves.—*Jour. of Prac. Med. and Surg.*

Mr. Syme's Case of Excision of the Tongue.—A correspondent, an intelligent English student in Edinburgh, states that the woman upon whom Mr. Syme operated about eight or ten days ago, did well until the evening of the 23d, when about 11 o'clock she died. Her death was most sudden and unexpected, Mr. Syme having considered her so far recovered as to request that she should try and leave her bed. It is the fourth case he has had, three of which have proved fatal. On the 24th Mr. Syme operated for axiliary aneurism; he first made a small incision above the clavicle so as to admit the finger of an assistant, and thus press the artery against the rib, he then cut into the sac, turned out the clots, and tied the artery above and below the rupture. Mr. Syme is certainly a fearless operator, and a good surgeon.—*Med. Times and Gaz.*, May 27, 1865.

CLINICAL LECTURE ON DIPTHERIA.

By Edw. Headlam Greenhow, Assist. Physician to the Middlesex Hospital.

Gentlemen: I propose to bring before you the subject of Diptheria, and to take as the basis of my lecture two cases which have recently been in the hospital, and which were characteristic examples of the two principal varieties of this formidable complaint—namely, of that form in which the urgency of the case is due to the local manifestations of the disease, and of that other form in which the danger arises from the general constitutional affection. The former of these is especially characterized by the existence of symptoms of apnœa, and the pressing danger is caused by the more or less complete occlusion of the air-passages by the membraniform exudation from which the disease derives its name of diptheria. The latter, on the other hand, is characterized by the predominance of symptoms of asthenia caused by the intensity of the general disease, and the danger to be apprehended is the gradual exhaustion of the vital powers. You should, however, fully understand, that although these two forms of diphtheria are so diverse in their more salient characters, and the kinds of danger which attend them, there is yet no doubt of their being, as I have said, only varieties of one and the same disease, for they not only occur constantly during the same epidemic, but very often also in the same household, at or about the same time. I have seen many examples of this, and one, which occurred only a few months ago, was especially striking, on account of the severity of both forms, causing

death rapidly in both cases. I was called to see a young gentleman aged fifteen, who had come home from school, I believe, with the complaint, and was suffering from the most urgent laryngeal symptoms, of which, in fact, he died the same evening, almost immediately after the operation of tracheotomy. Four days afterwards, his sister, aged eight years, was taken ill with diphtheria of the other, the asthenic form, which also ran an unusually rapid course, and proved fatal on the fifth day of her illness, without the supervention of any laryngeal symptoms. Another proof of the identity of the disease in the two different forms is, that although, in many cases, their separate characters are as sharply marked as in my description above, yet other cases occur side by side with them, which partake more or less of the characters of both forms. I say more or less, because, in fact, one of the two classes of symptoms does usually predominate.

Although the two varieties of diphtheria to which I propose directing your attention to-day are the most important, I must remind you that they are by no means the only forms of this disease. In every epidemic there are many cases in which neither are the air-passages involved, nor are there any urgent symptoms of general constitutional affection. Many of these would perhaps at another time be regarded merely as cases of common inflammatory sorethroat; but, occurring as they do at the same time, and frequently in the same household, with characteristic cases of diphtheria, we cannot but refer them to the same category. Several of you saw, the autumn before last, a rather severe case of diphtheria, which came from a house in the vicinity of the hospital in which sorethroat had previously been prevalent. The lad, aged sixteen, was a shoemaker's apprentice, and slept in the same room with three other boys. The family consisted of eight or nine persons, five of whom, including the three fellow-apprentices, had been under my care as out-patients in quick succession during the preceding fortnight, for sorethroat of varying intensity, but unaccompanied by exudation. Lastly, but still forming a part of the same epidemic,—if I may be allowed to apply the term to so limited an outbreak of disease—the lad presented himself, with symptoms of so great prostration, that we were compelled to take him into the hospital. His fauces were coated on both sides with the characteristic false membrane, and although he made a good recovery, his illness was severe. Albumen was found in his urine on the day after his admission, and he only regained health and strength after a prolonged and tedious convalescence. Again, cases characterized, it is true, by more or less diphtheritic exudation in the fauces, but unattended by any urgent symptoms, form a large proportion of every epidemic. Sometimes

it even happens that almost all the cases in particular epidemics are of this mild kind. Such cases usually recover under any rational mode of treatment, and it is the consequent great apparent success in treating them which has sometimes led even honest and worthy practitioners to promulgate as a specific for diphtheria some medicine with which they have treated large numbers of cases; the truth being, that by far the greater proportion of these cases required only common care, and would probably have recovered without any medical treatment at all. But although these mild cases so often do well with any or no particular medicine, I must not dismiss them without a word of caution to you, on the one hand against over-treating them, and, on the other, against neglecting them. I have seen serious mischief ensue from what I must term meddlesome treatment of such cases, especially when in the form of local applications; and yet even the mildest case requires careful watching, because, either by the invasion of the air-passages, or by the accession of constitutional symptoms, a case which in its first stages appeared of the mildest kind, may subsequently assume a most serious form.

With these preliminary observations, and begging you to bear in mind that I can only bring a small section of my subject, so to speak, before you to-day, I proceed to consider the first of the two grave forms of diphtheria which I have described, as it was exemplified in the more recent of our two hospital cases.

Mary Ann M——, aged eleven years, was admitted into Northumberland ward on the 24th of April, under the care of my colleague, Dr. Thompson. She had been ailing with cold for about a week, and had had sorethroat from the first. Two days before admission she had commenced coughing, and at the same time her voice had become hoarse; but, notwithstanding her indisposition, she had continued able to play about with her companions as usual in the open air until the afternoon of Sunday, April 23rd, when dyspnœa came on more decidedly, the cough and hoarseness increased, and she became so ill that on the following morning her mother procured her admission into the hospital. At the time of admission her breathing was difficult, laboured, and stridulous, and she spoke in a faint, husky voice. Her face was flushed, and the expression of her countenance anxious. Her skin was hot, pulse about 140, respirations about 24 in a minute. Mr. Waymouth, the clinical assistant, under whose observation she first came, states that at the time of her admission there was a small patch of false membrane on the fauces; but when I saw her, two or three hours later, this had disappeared. The case seemed so urgent, that Dr. Thompson requested his colleagues, including myself, to see the patient, for the purpose of

considering the propriety of performing the operation of tracheotomy. I found both tonsils enlarged, somewhat ragged-looking and reddened; the pillars of the fauces were also of a dusky-red colour, and the glands at the angles of the jaw, especially those on the right side, were slightly enlarged. The tongue was moist, and coated with a white fur. The urine was normal in appearance, and contained no albumen. On examining the anterior part of the chest, I found a deficiency of resonance in the left infra-clavicular region, and the respiration on both sides of the chest sibilant, with slight rhonchus in the upper part of the left lung. I was informed that there was dulness on percussion over the greater part of the left side of the thorax posteriorly, but the child was so ill that I did not attempt to verify this fact for myself. Immediately after the consultation tracheotomy was performed by Mr. Moore, and I shall presently state to you what were my own views of the case, and the grounds on which I advocated a decision in favour of operating. From two and a half to three ounces of blood were lost during the operation, and the pulse at once fell to 128, but shortly became exceedingly feeble. The respirations became exceedingly tranquil, and the child fell into a quiet sleep. At eleven P. M. the pulse was 140, the respirations 34; the patient had slept well at intervals, and had partaken freely of the strong beef-tea and brandy ordered for her. On the 25th it was reported that she had passed a good night and had taken abundance of nourishment. She was perfectly calm, her pulse from 130 to 140; but the respirations, though unembarrassed, were very frequent, being nearly fifty in a minute. The breathing was found to be tubular, and the percussion resonance dull over the whole of the left side of the thorax posteriorly; the respiration over the right scapula was also slightly bronchial; the deficiency of resonance and bronchial breathing below the left clavicle remained as before the operation. Throughout the day and night she continued stationary, coughing a good deal, but expectorating freely, until early on the morning of the 28th, when she became restless and began to have difficulty in raising the expectoration. During the day her breathing became more and more embarrassed, and gradually sank, and died at half-past four p. m., about forty-eight hours after the operation.

At the post-mortem examination a shallow, ragged ulcer was found on the surface of each tonsil, but both throat and fauces were free from exudation. A small patch of false membrane was lying loose on the under surface of the epiglottis, and the larynx and also the trachea, for the space of an inch and three-quarters downwards, were almost entirely lined with a tough false membrane, of about the thickness of kid leather, for the most part lying loosely on the mucous surface, but here and

there so firmly attached as to require much force to tear it away. The incision made by the operation had passed directly through this membrane. The larynx, trachea, and bronchi contained a large quantity of thick, tenacious, muco-purulent secretion. The mucous membrane of the larynx and trachea was generally somewhat reddened, and presented distinct patches of a still deeper redness. On tracing the left bronchus downwards from its origin, the smaller tubes were found to be inflamed and filled with thick mucus. The upper lobe of the left lung was collapsed, and the posterior part of the lower lobe was dark coloured and much congested. The right lung was also slightly congested, but otherwise appeared to be normal. The rest of the viscera were healthy.

I have spoken of this case as illustrating one of the forms of diphtheria, because I regard it as having really been a case of that disease, and not one of ordinary croup; and I am led to this conclusion by the fact that sore-throat, although of a mild kind, had preceded the laryngeal symptoms for some days, and still existed at the time of the patient's admission to the hospital. This accords with the ordinary history of diphtheria affecting the air-passages; it commences in the fauces, and usually, after a shorter or longer interval, creeps downwards into the larynx and trachea. The interval between the commencement of the illness and the accession of laryngeal symptoms may indeed be very brief, sometimes not exceeding a few hours, but in my experience it has more frequently been several days, though very rarely protracted beyond a week. One reason why laryngeal diphtheria often appears to commence suddenly is the fact, to which I have already adverted, that the earlier symptoms of cases which ultimately become dangerous are often of the mildest character, and consequently sometimes altogether escape the observation of friends or attendants until the symptoms of actual croup give the alarm. Last autumn I saw, at the request of her medical attendant, a little girl, aged four years, whose indisposition had been so entirely overlooked by her parents, that they had brought her up from the country only a few hours before I saw her, and until the dyspnœa and stridulous breathing suddenly came on, and induced them to send for medical advice, were proposing to take her on to Gloucestershire. Yet not only were the tonsils enlarged, with a patch of exudation, the size of a six-penny-piece, on each, but the fauces were generally injected, and the glands at the angles of the lower jaw swollen; showing beyond doubt that the disease must have been progressing for some days, even if we had not ascertained on inquiry that the child had had a slight sore-throat for nearly a week, which had not, however, prevented her from taking her food, and going about as usual. In fact, in that case, as well as in the case we are con-

sidering, it was evident to me, when first called on for an opinion, that the disease had already reached a stage in which, unless speedily relieved, the patient could not survive many hours, and in which the only possible modes of relief were either by means of the spontaneous expulsion of the false membrane, which I felt assured was choking up the larynx or trachea, or else by means of the artificial admission of air to the lungs through an opening in the trachea. Now and then, though very rarely, I have known cases of this kind recover, when apparently desperate, in consequence of the spontaneous separation and expulsion of a mass of false membrane, bearing a more or less close resemblance in shape to some portion of the air passages. I had some time since in my possession two such portions of false membrane, one of which formed an exact cast of the lower part of the trachea and the first portion of the bronchi, and the other an equally acurate cast of the larynx and upper part of the trachea. Both had been expelled by patients who were apparently almost moribund, and in both places the expulsion was followed by recovery. I also some years ago found in the post-mortem examination of a little girl, whom I had seen once a few hours before death, a deposit of false membrane lining the whole of the larynx, and extending nearly an inch downwards into the trachea. This false membrane formed a complete tubular cast of the parts, but was almost entirely loose, being only attached at a few points to the mucous membrane which it overlaid. Thick and dense in the larynx, it became gradually thinner in the trachea, until it terminated in an extremely thin, soft, and scarcely coherent pellicle. The child had died very suddenly a few hours after I had seen it, and the immediate cause of death appeared to have been the partial detachment of the false membrane lining in the larynx, which had choked the passage, and barred the admission of air. I was much mortified to find after death that possibly the operation of tracheotomy might have saved the child's life, and that the false membrane being loose, might not improbably have been seized with a pair of forceps, and drawn through the wound. I should add, however, that the spontaneous detachment and expulsion of the membraniform exudation, whether entire or in flakes, by no means insures the patient's recovery. The temporary relief is indeed for the most part very remarkable, and encourages the hope that the patient—who, although only a short time before apparently in the last struggle for life, may now be sleeping calmly—is on the high road to perfect convalescence; and in some instances this may really be the case. But such hopes are too often illusory, for the same tendency to repeated renewal of the false membrane, by fresh exudation, which is frequently seen in diptheretic

affections of the fauces, exists also in the larynx; and, unless the local inflammation itself be upon the wane, it is too frequently found, a few hours after the expulsion of the former cast, that a new one occupies its place, and that the patient is in a worse state than before, being less able to cope with the fresh attacks of dyspnœa, and less likely to have strength to expel the obstruction. In fact, as long as the inflamed mucous membrane continues to pour out the liquid exudation which coagulates into the diphtheritic deposit, so long must the process of formation go on. It is by the persistence of this process that what was at first a mere semi-transparent pellicle on the fauces, becomes in the space of a few hours a dense membrane, and that the latter often increases in thickness from day to day, notwithstanding the waste going on at its free surface. And so therefore I regard it as probable, seeing the great rapidity with which the membrane re-forms upon the fauces when it has been artifically detached, that, unless the inflammatory affection be really on the decline, the process of exudation and coagulation may go on for a time even more rapidly after the expulsion of the false membrane from the larynx than whilst it still covered the deceased surface.

To return, however, to the case of the little hospital patient. I was convinced, as already said, that the only possible chances for her life lay either in the almost immediate expulsion of the false membrane or in the speedy performance of tracheotomy. The former is, as I have explained, an event of rare occurrence, never to be counted on in any particular case, and the issue of which is exceedingly uncertain when it does happen; the latter alternative of operation has very frequently failed in such cases, and seemed especially likely to do so in a case in which the left lung was already partially consolidated, and the bronchial membrane probably inflamed. Nevertheless, considering that the child's suffering was urgent, that its death in a few hours seemed inevitable, unless relief could be given by the operation, and that there were no severe constitutional symptoms to contraindicate tracheotomy, I spoke very decidedly in favour of its being performed. The event proved that in the circumstances the operation was not only justifiable, but right, for it was scarcely over when the child's breathing became comparatively tranquil, and she fell into a quiet sleep almost as soon as laid down in bed; and although it is true that in this case, as in too many others, life was not saved, it was certainly prolonged, the most urgent suffering was permanently relieved, and death came in a gentler and less distressing form than it would otherwise have done.

The immediate causes of death in this case were, doubtless, the collapse of lung and the plunging up of the trachea and primary bronchi

with tenacious mucus, which the child was unable to get rid of by expectoration; for the lung-tissue, although collapsed, was not inflamed, and the bronchitis was scarcely in itself severe enough to have proved dangerous, except as a complication of the graver disease. In fact, however, I regard both the bronchitis and the collapse of lung as having resulted from the laryngeal affection; the former having probably been mainly occasioned by the gravitation downwards of the acrid fluid, from the larynx and trachea, consequent upon the patient's inability to expectorate. The collapse of lung doubtless arose, as it so often does in the bronchitis of children, from the imperfect admission of air into the lungs during inspiration, partly in consequence of the obstruction in the larynx and trachea, partly from the choking up of the bronchial tubes with tenacious mucus. This latter, again, was in a great measure owing to the inability to cough it up, consequent on the want of power to take such a full inspiration as necessarily precedes the act of coughing. This was therefore eminently a case of diphtheria, fatal in consequence of the local manifestations of the disease, and it was in the conviction that these constituted the real danger of the case that I entertained no doubt respecting the propriety of endeavouring to save the patient by tracheotomy.—*Lancet*, June 3, 1865.

ANEURISM OF THE THORACIC AORTO.

Dr. Potain, of the Hospital St. Antoine, gives, in *L'Union Médicale*, an interesting case, in which aneurism of the thoracic aorta was diagnosed by means of the laryngoscope. The patient, on admission, suffered mainly from cough, aphonia, and dyspnœa, and was treated for laryngo-bronchitis. But as the treatment had no effect, M. Potain, convinced that the mischief lay in the larynx, examined the organ with the laryngoscope; and, to his surprise, found the mucous membrane in a perfectly healthy state. The cause of the aphonia, however, was at once explained by a complete paralysis of the left vocal cord. Hence, it appeared probable that the left recurrent nerve was affected in some part of its course. On further investigation, M. Potain was able to observe deep down in the trachea on its left side a reddish and projecting surface, which prevented the first division of the bronchi from being seen. No pulsation, however, was observed in it. This fact, however, with certain auscultatory signs, led to the diagnosis of aneurism, which was confirmed by autopsy. The recurrent nerve was found closely pressed between the tumour and the trachea; it was flattened and transformed into a kind of ribbon, and could only be recognized by its continuity with the pneumogastric nerve. All the laryngeal muscles supplied by the left recurrent were more or less atrophied.

Canada Medical Journal.

MONTREAL, OCTOBER, 1865.

CHANGE OF TYPE IN DISEASE.

The question whether the non-employment of general and local bleeding, in the treatment of fevers, and acute diseases generally, as now followed by the majority of practitioners, is due to a change of type in disease, or to a more correct knowledge of the pathological conditions than were possessed by our forefathers, is one which has occasioned not a little discussion. It is now again revived by the address in medicine delivered before the British Medical Association, at its last meeting held in August, by the Regius Professor of Physic, in the University of Dublin, William Stokes, M.D., D.C.L. The very high position occupied by this gentleman, and his vast experience, extending over a period of over forty years, during which time the change of type (if the true cause) occurred, gives to his opinions weight possessed by few living physicians. Dr. Stoker at once strongly asserts his conviction, that disease now is not of the same type as it was thirty years ago, and calls to his assistance Drs. Christison, Watson, Alison, and Graves—the two former being still alive, to give their testimony—the two latter, but recently removed. The address is a very lengthy and able one, and we regret we are only able to give a few extracts, which will, however, give our readers some idea of the stand taken, and the opinions given by its talented author. He says, speaking of the change in the method of practice:

"We can hardly conceive a revolution in practice more complete. Venesection is now, from being the most frequent, the rarest of operations. In place of the loss of blood, we have the exhibition of stimulants; in place of a system of almost starvation, we have the careful use of nutriment.

This change has given rise to the charge against our predecessors and teachers, that they were bad practitioners, ignorant of true pathology, little better than blind followers of traditional error. Not only has their

power of observation been questioned, but their morality and honour have been assailed; for it has been suggested that the doctrine of change of type was an invention to cloak their former errors.

But the thinking man finds it hard to believe that the fathers of British medicine were always in error, and that they were bad observers and mistaken practitioners. They, indeed, have rested upon their labors, but their works remain; and he who reads the writings of Sydenham, of Haygarth and Fothergill, of Heberden and Fordyce, of Gregory, Cullen, Alison, Cheyne, or Graves, must have a very inapprehensive mind, if he fail to discover that they were giants in those days, and that the advocacy of such ideas only indicates a state of mind not consonant with the modesty of science.

The declaration that it has been or can be proved by a more advanced pathology, that bleeding never was the proper remedy for fevers and inflammations, has as yet no scientific ground. It is not yet given to us, notwithstanding all our advance in normal and in morbid anatomy, in the physiology of health or in that of disease, to be able to say, from the most minute examination of the dead organ or structure, what were *all* the conditions which attended it during life, in health or in disease—what were its local vital phenomena, what was its accompanying constitutional state. The words of Goethe, so well rendered by Dr. Anster, convey a deep practical lesson to those who would base medicine on anatomical change:

> "Alas! the spirit is withdrawn—
> That which informed the mass is gone.
> We scrutinise it when it ceases to be itself,
> Finger and feel it, and call this
> Experiment analysis."

But let us ask, Which is the most probable of the two suppositions? First, that our predecessors, including such as I have named, were bad observers, incapable of divining the truth, and blind adopters of an antiquated and mischievous method; or, secondly, that the type of disease has changed, and that in our own time.

When I read the words of Alison—the best man I ever knew—it is with a feeling of wonder how it has happened that men should forget what reverence is due to his memory; whether we look on him personally as a man of science and a teacher, or at his life as an exemplar of a soldier of Christ. It was my fortune to be very closely connected with him during my student days in Edinburgh, and to attend him by day, and more often far into the night, in his visits of mercy to the sick poor of that city, to whom he was for many a year the physician, coun-

sellor, and support. This was forty years ago, and at that time he recognized the change. Often he said to me, 'We cannot bleed this man; we must get him wine;' and the wine was got, and given with an open hand, so long as it was required. He used to say, 'I am not anxious to put these poor people into hospital; they will get on better at home, if we are guided by looking at their constitutional even more than their local state.' This, however, has been well put by Dr. Watson, who dates the commencement of the change from that of the first presence of cholera in London in 1863.

Dr. Christison, in his *Memoir on the Changes which have taken place in the Constitution of Fevers and Acute Inflammation, in Edinburgh, during the last Forty-six Years*, says:—

'Looking at the epidemics of fever in Edinburgh from the beginning of the present century, he shows conclusively that, in 1817-20, and in 1826-29, their characters were those of Cullen's synocha and synochus—inflammatory, relapsing, critical. Speaking of the epidemics of 1817-20, he dwells on the hard, incompressible pulse, the ardent heat of the skin, the florid hue of the venous blood, and the impetus with which it escaped almost *per saltum* from the vein, the vivid glow of the surface, and the distracting pain and pulsation of the heart and chest. Similar phenomena occurred in the epidemic of 1826-29; and, in both, bleeding was largely practised with the happiest effects; so that, in the epidemic of 1817-20, the mortality, which was at first one in twenty-two, fell to one in thirty—a result which disposes of the charge of malpractice against the profession. But, in 1834, Dr. Christison found that probably for two years previously a change had been going on:—synocha had disappeared; synochus had lost the vehement reaction of its early stages; typical typhus was much more common; and what did not come up to Cullen's mark of fully formed typhus was what physicians would now commonly call mild typhus, with more of introductory reaction than we observe now, but with less than in the two epidemics of 1817-20, and 1826-29.'

I have given, I hope, a sounder explanation; less flattering, perhaps, to the rising generation of physicians, but surely more honourable to physic itself, more creditable to medical observation and experience, more consonant with the advanced state of medical philosophy. My own convictions on the subject are so strong, that I regard nothing as more likely, than that in the course of time some now present will see the day when a reflux in the constitution of fever will present it again in its sthenic dress, and again make the lancet its remedy. And in that event it is not impossible that, while we are now charged with giving up blood-letting, because it was discovered to have never been the proper method of cure, we will hereafter

be assailed by some new enthusiast in blood-letting, who, in imitation of Dr. Welsh, and regardless of the fate of his doctrines, will accuse us, with equal justice, of having made our late fevers asthenic and typhous by blindly withholding their fittest remedy.

I may now add the results of my own experience in this matter. I remember the period when the change of type took place in Ireland; and am under the impression that it was observed earlier in Ireland than in Scotland, or at least in England. The great epidemic of fever in 1828 was a remarkable one from its compound nature, and seemed to be made up of synocha, synochus, and enteric typhus. But nothing was more remarkable than the vehemence of the inflammatory reaction in many cases; and it is a curious fact that this was sometimes seen at its highest pitch in the relapses, when it was often far more violent and dangerous than in the first attack. Local bleeding was largely employed. In many cases, venesection or arteriotomy had excellent results; so that, although there were abundance of cases with prostration, and others marked by the typhoid condition, the old sthenic character had not disappeared. The amount of wine used at that time in hospital was quite insignificant as compared with its consumption for the last twenty or twenty-five years. In Dublin, at least, this epidemic passed into one of intermitting fever: and it was then I ventured on testing the nature of the practice recommended by Dr. Mackintosh of bleeding in the cold stage. The result of the experiment was against the use of the lancet; but I mention it, as indicating the time when it may be said venesection was abandoned in our wards.

Thus, between 1822 and 1828, the sthenic character of essential and of local disease existed, and the lancet was freely used, often, as I believe, and as I have elsewhere stated, with too great freedom; but I well remember observing the frequent occurrence of the phenomena mentioned by Dr. Christison—the vehement action of the heart, the incompressibility of the pulse, the vivid redness of the venous blood, and the force with which it spouted, almost *per saltum*, from the orifice in the vein. I have myself taken as much as sixty ounces in a case of active congestion of the brain, with hemiplegia, before any impression was made on the arterial excitement: in this case, complete success followed. In rheumatic fever, too, we found the use of the lancet in the early stage of the disease to be productive of great relief. Venesection was seldom used more than once; but its effect was to shorten the duration of the disease, to lower the fever, to lessen the liability to the so-called metastases, and to render the whole case much more amenable to treatment. But I have not bled in rheumatic fever for the last quarter of a century; for the

whole character of the disease has changed. We have not had for many years the bounding pulse, the exaggerated heat and sweating, nor the same liability to acute inflammations of internal parts. The action of the heart is often feeble; and the tonic and supporting plan seems called for from an early period. Another point worthy of remark is, that cardiac and aortic murmurs of the anæmic kind have for many years been much more frequently observed, both during the attack and in the convalescence, demanding the use of iron for their removal. Observations of a similar kind apply to other acute diseases; such, for example, as erysipelas and other affections of the skin. Before 1830, we had, as an ordinary disease, the acute phlegmonoid erysipelas, attended with inflammatory reaction, vivid redness, and great swelling of parts. The practice of free leeching gave great relief; so also did that of incisions. All these characters have, to a great degree, disappeared.

The Pathological Society of Dublin has been now established for twenty-six years, during which time it has held weekly meetings for six months of each year. As one of the Secretaries of that Society, I have had full opportunity of seeing and examining the recent examples of diseased structure brought weekly before the body—amounting to nearly 3000 specimens—the collected products of the various hospitals of the city; and this result is remarkable, that the specimens of acute disease have had a character very different from that commonly met with in Dublin between 1820 and 1830. As a general rule, these specimens all showed appearances indicative of a less degree of pathologic energy. In pneumonia, for example, the redness, firmness, compactness, and defined boundary of the solidified lung was seldom seen; and that state of dryness and vivid scarlet injection, to which I ventured to give the name of the first stage of pneumonia, became very rare. In place of these characters, we had a condition more approaching to splenisation—the affected parts purple, not bright red; friable, not firm; moist, not dry; and the whole looking more like the result of diffuse than of energetic and concentrated inflammation; or we had another form, to which Dr. Corrigan has given the name of blue pneumonia, in which the structure resembled that of a carnified lung which had been steeped in venous blood.

Let us turn now to the serous membranes, and the same story is repeated. The high arterial injection, the dryness of the surface, the free production, close adhesion, and firm structure of the false membranes in acute affections of the arachnoid, pericardium, pleura, and peritoneum, with which we were so familiar before the time in question, ceased in a great measure to make their appearance. The exudations were more or less hæmorrhagic; the effused lymph lying like a pasty covering rather

than a close and firm investment; it was thin, ill defined, and more or less transparent. In many of such cases, during the disease, as the late Dr. Mayne has shown in his memoir on pericarditis, friction-sounds were never presented. Serous or sero-fibrinous effusions tinged with colouring matter replaced the old results of sthenic inflammations, and all tallied exactly with the change in the vital character of the disease.

It has happened to me—and I mention this in evidence that we were not mistaken as to cases peculiar to the sthenic form—that a few instances of disease in its old inflammatory characters have appeared in isolated examples, and at irregular intervals of time; so that we at once recognised their nature, and employed with success the old treatment in all its vigour—employed the lancet, although for many years its use had not been resorted to. This is very important, as showing that there are influences, the nature of which is as yet unknown, that affect the vital character of local disease in an inconstant manner."

MEDICO CHIRURGICAL SOCIETY OF MONTREAL.

The second regular meeting of this new society was held upon the last Friday in September. There was a fair attendance, the chair being occupied by Dr. Hingston, Vice President. Several new members were elected, and others proposed for membership. A brief discussion took place upon a very interesting case of Trumatic Tetanus, which lately occurred at the Montreal General Hospital, and which proved fatal. We hope to give the notes of this case in our next. We trust that when the society gets fairly into operation, its proceedings will furnish us with many interesting cases for publication.

At a recent meeting of the Medico-Chirurgical Society of Edinburgh, Dr. Thomas Keith exhibited four ovarion cysts which he had recently removed by ovoriotomy. All the operations were simple and easily performed, and were followed by the rapid recovery of the patients. Dr. Keith had performed ovoriotomy 31 times, with the result of 22 recoveries and 9 deaths, or 29 per cent. of deaths.

From a return just published it appears that the Chancellor of the Exchequer has received the enormous sum of £55,333 0 6½ for duty on quack medicines. — Previous to the discovery of vaccination, and when the population of Great Britain was only ten millions, the number of deaths annually from small pox was 30,000. Now, with a population of thirty millions, the number of deaths is less than 10,000. — A statue has been erected at Bologne to the memory of the immortal Jenner. It is ten feet high, and stands on a marble pedestal twelve feet high. — Dr. Forbes Winslow, the eminent physician, is in a dangerous state of health.

CANADA

MEDICAL JOURNAL.

ORIGINAL COMMUNICATIONS.

Introductory Lecture, delivered at the opening of the Medical Department of the University of McGill College, November 7th, 1865. By R. Palmer Howard, M.D., Professor of the Theory and Practice of Medicine.

(Abridged from the author's notes, by Francis W. Campbell, M.D.)

Gentlemen,—It has long been the custom at this School for each Professor to introduce to the notice of the Students in a formal introductory, the department of Medical Science which it is his immediate duty to teach and illustrate. It becomes really a difficult matter to find new subjects every year suitable for these introductories, and I shall not make the attempt, but rely upon the generous consideration of the older members of the classes, while I address a few observations to those who begin their professional studies this session. But before beginning those observations, permit me to bid you all, old and new students, welcome to this School. Two subjects have suggested themselves as capable of furnishing topics of profitable consideration on this occasion: 1st. The qualifications of primary importance to the Medical Student of the present day; 2nd. Some suggestions or rules for his guidance during his pupilage. Certainly amongst the most important qualifications of any student of the liberal professions must be ranked a good preliminary general education. The special advantages of such an education to the divine or the advocate may not be exactly those illustrative of its value to the physician, but they are in the main the same; the training of the mental faculties so that they may be promptly and vigorously applied to the acquisition of knowledge, the discovery of principles and laws, and the discrimination between truth and error. The study of Greek or Latin, French or German is useful not alone nor chiefly as conferring upon the student an additional channel through which to acquire information, but as a means of strengthening the memory

developing the analysing and comparing faculties, creating the habit of accurate thought and expression, and disciplining all the mental powers, results of the highest value to the student. The pursuit of mathematical science exerts a similar influence, and more especially cultivates a cautious, systematic habit of reasoning, and of accepting nothing as proven in human knowledge, until it has been weighed or measured, calculated or demonstrated: it tends to produce a logical mind, than which there are few greater acquisitions to the physician. An acquaintance with some of the branches of natural science is of very great value to a student of medicine. When you reflect that heat, light, electricity, motion, which operate universally in inanimate nature, also operate in animated beings —aye, in man himself—you may perceive that a knowledge of their modes and conditions of action must be highly important to the individual who would investigate the functions and phenomena of the human organism. However important a good general education is to the student of divinity or law, I cannot help thinking it is of greater value to the student of Medicine. For not alone has the latter to acquire a knowledge of a larger number of collateral departments of science, as botany, chemistry, comparative anatomy, than the former, but the nature of the subjects he has to investigate, the causes of disease, the actions of remedies, the laws of vital action, &c., are of a more complex and mysterious nature than those great principles of religion, morality and justice which regulate the relations of man with man, and of man with his Maker—relations which form the subject matter of the professions of divinity and law. So valuable to the medical student is the education we are contemplating, that for many years the leading minds in our profession have been advocating a higher standard of attainments from the pupil about to enter upon his professional studies. Indeed the Medical Council of Great Britain has suggested the propriety of compelling every student to possess a degree in Arts or its equivalent before entering the Medical Schools. Some of you may think it will not be a difficult matter to acquire a fair acquaintance with Latin, French, and English literature, mathematics, and moral philosophy, during the four years assigned for your medical studies. But you will find that will be a serious mistake. It can not be done except to the neglect of the latter.

Every day, every period of a man's life, brings its proper engagements: those of yesterday, if unfulfilled, cannot be met to-day, at least they will encroach upon the time due to the engagements of to-day. If you have wasted your opportunities of acquiring that elementary knowledge, and mental training which the educated classes generally obtain at schools, you will find that it cannot be recovered, unless at the cost of neglecting

other duties proper to your present age; and in your case those are clearly a close application to the topics appertaining to the medical curriculum. Whatever differences of opinion may exist about the value of thorough educational training, none can obtain as to the extreme importance of a good grounding in the fundamental branches of medical knowledge, anatomy, physiology, and pathology. It is scarcely necessary that I stop to discuss the value to a medical man of an intimate acquaintance with the several parts, bones, joints, muscles, vessels, nerves, and viscera that make up the human machine; as well might a man undertake to act as engineer, who was ignorant of the parts and principles of the steam engine, as for a man to attempt to perform the duties of a surgeon while ignorant of the anatomy of the human body. It is however a common feeling on the part of the student, and even of passed men, that much of the minute anatomy of the vessels and nerves taught in schools is unnecessary, and of no practical value to the practitioner. This appears to me to be a great mistake, and I am disposed to believe that very much remains to be made out of the minute anatomy of those wonderful organs—the brain and spinal cord, which, once ascertained, the student will be required to learn, and which will supply the explanations of many facts in physiology and pathology not now comprehended. In proof of the value of a thorough knowledge of the distribution of the nerves, two or three circumstances may be adduced. Without it, what correct idea could be formed of those actions of the economy depending upon what is called the reflex function of the spinal system of nerves—say of the acts of coughing, swallowing, vomiting, &c. Without it how trace the mechanism by which a man sneezes when light is thrown upon the drum of his ear, or the retina of his eye, or how indigestible food in the stomach causes closure of the glottis by spasm of its muscles? Physiology, too, the science of the functions, and of the circumstances determining the normal exercise of the functions of the several parts and organs of the body, demands your closest study. For if ignorant of the various circumstances which conditionate the normal exercise of the various functions of the body, how can we hope to determine the rules which shall preserve that body in a state of health, or restore it to health when diseased? I do not mean to say that a knowledge of the functions of an organ, or of the conditions under which it discharges those functions in health, will necessarily enable you to invent means by which it may, when diseased, be restored to health; but I affirm, that were the science of physiology at all perfect, it would enable us to enunciate principles which should, if followed up, very considerably lessen the amount of disease in the world, by preventing its occurrence,

and would give the pathologist a scientific basis upon which to establish the conditions of disturbed vital action, and afford the therapeutist many valuable suggestions as to the means best adapted to restore health. Let it be observed, too, that in disease, it is highly probable that the same vital laws operate as in health, although under different circumstances, and with different manifestations. An intimate acquaintance with the nature, causes, structural alterations, symptoms, and course of the diseases of mankind is a requirement of the physician especially insisted upon at the present day. Without it a man is ignorant of the science of medicine, however practised he may be in the *art* of medicine. Very much has been made out as to the alterations of structure (morbid anatomy), and symptoms characteristic of most diseases, and those departments of pathology have attained a high degree of development. Those which are concerned with the causes and natural course of individual diseases, are still in a very unsatisfactory state of development, and their elucidation is one of the most urgent necessities of scientific medicine in the present day. Did we understand or even know the causes of many serious disorders, how much could we not do, at least toward their prevention, if not cure and removal? But it is especially a practical acquaintance with disease and its treatment that is of importance to the medical student generally in Canada; for in a new and sparsely peopled country like ours, where most medical men are obliged to practice all branches of the profession, comparatively few of us have the opportunity, or means, or I fear inclination to the cultivation of the more abstruse and philosophical subjects of medical science. By a practical acquaintance, I mean such a knowledge as enables its possessor to recognise the presence of disease, differentiate their varieties, appreciate their degrees of severity, specialty of type, and peculiarity of manifestation, arising from diversity of age, diathesis, constitution, &c., and to employ judiciously all the means known to science and experience to cure, retard, and alleviate them. Now the possession of this knowledge implies not only more or less acquaintance with the descriptions of disease furnished in books, and lectures, but a *personal* knowledge of them acquired at the bedside of the sick—the ability to use our unaided powers of observation promptly and correctly, and to enlarge and assist them by the many instruments and physical appliances which the physician of the present day possesses, as the stethoscope, ophthalmoscope, laryngoscope, microscope, thermometer, &c.; a familiarity with the uses and doses of medicine, and with the pathological conditions in which experience has shown that they may be properly administered—as well as a certain amount of skill and facility in the performance of those mechanical offices, which more properly

appertain to surgery. This practical knowledge of disease just described is obviously the bounden duty, and should be the great aim of every man who intends to enter the ranks of the profession of medicine with a view to the exercise of his knowledge in the prevention and cure of disease, and the alleviation "of all the ills to which flesh is heir." The arrest of public attention by the application of statistics to the death rate of different countries, the increasing intelligence of the public, the estimation in which medical science is held, the contributions to the welfare of mankind of that science in the past, and the philosophical spirit which pervades its ranks, have combined to press on the attention of the student of medicine in the present day, a duty which his predecessors, fifteen or twenty years ago, had almost ignored, viz., the prevention of disease. That large class of diseases, with perhaps a few exceptions, known as the zymotic, which comprises all ailments induced by the introduction into the body of a specific material or by defects in the quality or quantity of food, ought to be regarded by the physician and the public as *preventible* affections; and it is unquestionably both a reasonable, and a legitimate pursuit of the scientific physician to endeavour to discover means by which the occurrence of these maladies may be successfully opposed. To this class belong small pox, cholera, plague, remittent, typhus, typhoid, and yellow fever, hospital gangrene, erysipelas, pyemia, and many more diseases which frequently invade whole communities, and carry off hecatombs of victims, despite the well-employed resources of medical science. That *many*, probably *all* of these diseases, may be hereafter prevented, may be inferred from what has long since been done in the case of small pox, by vaccination, and of scurvy by lemon juice—and more recently from the disappearance of typhus fever, hospital erysipelas and gangrene, when opposed by a plentiful supply of pure fresh air and water; indeed the experience of the American and Italians, in the late campaigns, has proved that hospital gangrene may be altogether obviated by placing the wounded in well-ventilated tents. Already preventive medicine has in England "prolonged human life from five to fifty per cent, as compared with previous rates in the same districts." And, since 1840, it has reduced an annual mortality in English towns of 44 in 1000 to 27, and an annual mortality of thirty to twenty, and even as low as fifteen. Preventive medicine is based upon the general hygienic laws taught by physiology, and especially upon particular rules suggested by a knowledge of the causes of disease, so that in urging upon your consideration the claims of preventive medicine, I am at the same time commending to your study, physiology and etiology. I doubt not, from the attention the subject is now receiving from the ablest minds in the profession, that

medical science will make remarkable advances in future, and acquire new claims to the homage of men for the cure of many diseases which have hitherto proved intractable, and for the prevention of others which are in their essence incurable. The only other qualification which the medical student should possess, that I will mention, is the possession of that culture of mind, rectitude of morals, habit of self control, spirit of benevolence and sympathy with human suffering which should exist in a man whose mental and moral faculties have been developed and moulded by a long familiarity with the thoughts and opinions of the good and great amongst the dead and the living, and refined and humanized by every day witnessing the patience and suffering of the sick, and the solicitude and pious affection of their friends.

Adressing myself, as I am mainly to those gentlemen who are here for the first time, it may not be out of place to suggest some rules for your guidance during your student life. First, start with the determination to perform all your duties punctually and regularly; make it a point if possible never to miss a lecture, demonstration or examination, and endeavour to be present punctually at the appointed hour to meet your engagements. You will then soon acquire habits of industry and punctuality, two qualities which almost certainly secure success in life, or at least without which, distinguished success is seldom attained. A determination to do one's duty under all circumstances is perhaps the highest principle of excellence in any character. While in the lecture room or reading in your own rooms, cultivate the faculty of concentrating the mind upon the subject engaging its attention—you will thus be enabled to apprehend a subject more readily, and retain it in your memory more certainly, than if, with a feeble attention, you read or listen. I cannot conceive a more pernicious habit in a student, than paying a slovenly attention to any subject he may wish to master. It is a habit easily formed, but with difficulty conquered. Sir Bulwer Lytton, the great novelist when explaining how amidst many active public duties, he managed to write so much observes, "I contrive to do so much by never doing too much at a time. As a general rule I have devoted to study not more than three hours a day, and when parliament is sitting, not always that. *But then during those hours*, I have given *my whole attention*, to what I was about." One of the most valuable means of instruction you will find will be a regular attendance on the weekly examinations. Not only do these exercises, if honestly done, oblige a review of the week's work, afford an opportunity of supplying omissions in your notes, or obtaining explanations of subjects you may not have comprehended, but they develope the faculty of promptly producing from the mental storehouse the knowledge it con-

tains at a moment's notice, and of conveying one's ideas in correct language. Not the least valuable office of these frequent examinations is their tendency to cause the student so to examine and sift the subject he is learning, that he seizes its most important and striking features, fixes his attention upon them, and so to speak mentally assimilates them, that they become part of his own mental wealth, which he can expend when a demand is made upon his resources.

It is the opinion of many experienced men, as well as of the speaker, that students should commence to "walk" the Hospital from the commencement of their career. Although you will be ignorant of the names and symptoms of the diseases the patients may be the subject of, and will feel perplexed and mystified by the numerous physical signs the attending physician may ask you to listen to, be not discouraged; you will be insensibly educating your eye, ear, touch and powers of observation, and be gradually acquiring a practical acquaintance with the physiognomy of diseases—knowledge you can only gain at the bedside of the sick. Let your visits to the Hospital be daily, and punctual to the hour appointed. A daily attendance is necessary, because the progress of most acute diseases is such that they must be watched almost from hour to hour, if the changes are to be noted. The time spent in the wards should certainly occupy from an hour to an hour and a half at least—for, beside accompanying the physician from bed to bed during his examinations of the patients, the student should return after the visit to examine such cases as he is studying. It is perhaps superfluous to say that while the physician is examining or prescribing or commenting upon the cases, students should not be collected in groups at the end of the wards, engaged in small talk with the nurse, or listlessly looking out of the window, but should be close by the bedside, watching the mode in which the patient is examined, listening to the questions adressed to, and the answers returned by the patient; while looking, they should learn to see; while hearing, they should try to listen. It is not necessary to see a great number of patients daily to gain a practical knowledge of disease. A few cases, carefully studied and closely watched, are infinitely more instructive than a multitude glanced, at and hurried over. When a case terminates fatally, repair to the dead house, and witness, if you may not perform, the examinations of the body. Inspect closely all morbid appearances, and make on the spot a record of them, and at home review them, and see how far they justify the diagnosis pronounced, and the symptoms observed during life. You cannot prize too highly the demonstrations in morbid anatomy. Let me recommend you, if possible, to avail yourself of every one performed during your student life. Take every oppor-

tunity to become dressers and clinical clerks in the Hospital. The summer after your first session will not be too soon, in my opinion, if you have been at all diligent. As dressers, you will learn the minor surgical operations of cupping, bleeding, bandaging, &c., and acquire a dexterity in their performance which practice can alone impart, &c.; and if you neglect the opportunity while students, you will deeply regret it when obliged to set the first fracture, in your own practice. Another duty, not less important, yet apt to be neglected, is the duty of becoming clinical clerks. The careful investigation of the history and symptoms of a sick person the daily examination of the patient, the noting of the symptoms as they vary from day to day, the record of the effect of remedies, is one of the best modes of acquiring information of the disease under observation and the influence of treatment over it. A well reported case of disease I regard as evidence of high qualifications in the reporter. He must have cultivated highly his powers of observing and describing symptoms, and must have attained no inconsiderable acquaintance with special diseases and the action of remedies, and must have acquired much tact in dealing with human character and a judicial mind in the examination of human testimony. I would advise you to endeavour from the beginning of your pupilage to acquire a facility in the employment of the various physical means and instruments—with which modern science has enriched the resources of our art. They are somewhat numerous, but amongst the most important may be mentioned—auscultation and percussion, the use of the microscope, laryngoscope, ophthalmoscope, thermometer, and the application of chemistry to the rough analysis of the blood, urine, expectoration, and other secretions. Wonderful progress has been made in the detection and discrimination of diseases of the heart and lungs since percussion and auscultation were first practised. It is now a matter of history, and moreover you will soon be convinced of the value of these means of investigation in the Hospital, and I trust in this lecture room. The microscope too has established its reputation as a means of detecting the nature of abnormal conditions of the blood and urine, the nature of the matters ejected from the stomach, &c. Of more recent acquisition is the laryngoscope and ophthalmoscope, but their novelty is no measure of their utility. The former has already enabled the practitioner to see diseases of the larynx and wind pipe, whose existence was only dubiously inferred, or not even suspected; and the latter has made known a long list of structural changes in the living eye, which had not even been discovered in the eye removed from the body. Nor is the ophthalmoscope limited in its application to the detection of diseases of the eye, for the interesting fact has lately been determined that it will frequently reveal altera-

tions in the deeper tissues of the eye ball, suggestive, some of them perhaps characteristic, of disease in the kidneys, spinal cord, medulla oblongata or brain, or indicative of some particular *cahexia* as syphilis or chronic Bright's disease, ailments, with the exception of syphilis, which receive the attention of physicians. The apparently commonplace instrument, the thermometer, is just now being employed by the physician, as a means of gauging the severity, foretelling the issue and probable duration of nearly all acute febrile diseases. Within the past few months Dr. Sidney Ringer, well known for his investigations of the temperature of the body in disease, has stated that by means of the thermometer "we can diagnose tuberculosis" (one of the most frequent and fatal morbid processes) "long before the physical signs and symptoms are sufficient to justify such a diagnosis." I might also point out the value of the endoscope, an instrument just introduced, by which the interior of the bladder and urethra may be seen; and which may perhaps be so modified, as to enable us to see the inside of the uterine cavity, and of the rectum high up. I should like to say something of the importance of giving proper care to your health; taking daily sufficient exercise in the open air, selecting well informed and well behaved companions, avoiding debased society, and cultivating good manners, but time will not permit.

(Dr. Howard then briefly gave some of the impressions made upon him during his recent visit to the London Schools of medicine. He alluded to the vast field of observation existing among the numerous large, and well endowed hospitals of the metropolis, many of which he named. He noticed the untiring industry of the Physicians and Surgeons of the Hospital, it being no uncommon thing to be attached to two Hospitals and sometimes, even three, and spoke in terms of admiration of their caution in drawing conclusions, their candour in confessing their ignorance, and their modesty and reserve in the expression of opinion upon vexed questions in science.) He concluded his lecture in the following words: Gentlemen, you are fortunate in being introduced to medicine at this period of her history. She has much to inform you of, many mysteries of nature to reveal to you, many truths to communicate, many hints and suggestions pregnant with future revelations to offer you, and a large storehouse of resources to place at your disposal. Labour now to profit by your advantages, watch every opportunity to render yourselves conversant with her teachings. To gain her confidence, and wield her resources, you must become her devoted, industrious and self-denying followers. You must engage in her service, not for the sole purpose of personal advancement, but with the desire to add to the possessions of her you serve, and above all to render her, through your instrumentality, the benefactor of suffering man.

Remember that in selecting medicine as your pursuit in life you are assuming responsibilities weightier and more important than appertain to any other office, save the priestly. It will be your office to apply the remedies, supplied by the God of nature, for the healing of the sick. You are to be the instrument in His hands of alleviating the sufferings, curing the diseases, and prolonging the days of your fellow man; and as His servants, you are responsible to the extent of your abilities and opportunities for the fidelity, discrimination and success with which you perform your works.

Let a sense of your responsibilities be ever with you during your studentship, and it will stimulate to close, continuous, and persevering study; and you will at some future day be rewarded with the esteem, affection, and confidence of your fellow men—the peace of mind afforded by a clear conscience, and, above all, the approbation of your God.

The Present Epidemic of Cholera—its Origin and Progress. By FRANCIS W. CAMPBELL, M.D., L.R.C.P. London, Member of the Royal Medical Society of Edinburgh.

As this dreaded scourge nears our own land, the interest which has been attached to its progress in more distant regions increases, and with its onward march there comes the conviction that the cities and towns of Canada are not in that condition of cleanliness which the history of the past three months loudly demanded the proper authorities to attain, and, when reached, to maintain with all the power at their command. But upon this subject it is not my intention to enlarge, being foreign to my purpose. To be able to trace the origin of an epidemic disease hitherto, and still so fatal as cholera, is an attainment worthy of not a little labour,—for its origin once reached, the cause cannot be far off. Since the present visitation of the disease a vast amount of information has been collected, and from all I can gather, and I have examined every available means—and they have been pretty extensive—there seems not to be a shadow of doubt but that a holy pilgrimage of the true Mahomedan type was the centre from which the disease radiated. In May of the present year seven hundred thousand pilgrims gathered together at Mecca, and on the hill of Arafat hard by, to celebrate the festival of the *Kurban Bairam*, which extends from the first to the twentieth day of the month. To the superstitious Mussulman Arafat is full of romance; tradition pointing it out as the spot where the first lovers—Adam and Eve—met, after being separated two hundred years for their primeval sin: and the Mahomedan pilgrim does not consider his work accomplished

until he has reached its summit, and performed his devotions there. They arrived at their destination badly clothed, and badly fed, and the larger proportion greatly exhausted by their long and tedious journey. Their food was loathsome, and often putrid, they were huddled together without the slightest attention to cleanliness—their only means of washing being the stinking pools near by. The streets and houses were impregnated with the most noxious gases, emanating from the decomposition of their excrementitious deposits, and their dead thrown carelessly out into the fields, no one being ready or willing to bury them. They were all fantastically ecstatic. Death to them had no terrors, its prevention being looked upon as a curse, and pain borne with joy. In times past this vast multitude has never assembled without being subject to the ravages of some disease, and this spring formed no exception to the rule; but owing to some particular circumstance, the number of pilgrims this year vastly exceeded any previous one. This only increased the liability, from increased filth, to a more virulent form of disease, and hardly had the pilgrims assembled ere cholera made its appearance. This is little to be wondered at, when we consider the condition in which they arrived, and lived during their temporary stay at Mecca. According to an official report upon the cholera epidemic, just presented to the French government by Drouyn de Lhuys, Minister for Foreign Affairs, the offal of a million of sheep and camel slaughtered to supply their demands, was thrown carelessly upon the ground, and decomposing rapidly under a tropical sun, helped not a little to give rise to the epidemic. The fire once lit, what a mass of fuel was ready for consumption. The disease spread rapidly—the thousands of weary human beings became a mass impregnated with the seeds of this terrible disease. Strange to say the fearful mortality of their fellow pilgrims made no impression upon them, and as for medical aid, there was none. Such, then, is beyond a doubt the origin of the present epidemic, and strange to say, the cholera which was so fatal in Canada in 1849 had also a pilgrim origin. It first made its appearance at a place called Tantah on the Delta, in July, 1848. At that time about 160,000 pilgrims from all parts of Egypt and Syria had gathered to celebrate the funeral of a Mahomedan saint. From the same causes that I have previously alluded to, before they dispersed, cholera appeared, and carried off 3,000 of their number. Shortly after the conclusion of the festival, cholera appeared at Alexandria and Cairo, and in the latter end of August the deaths in the latter place were 300 daily. And so was it with the present epidemic; the dispersing pilgrims carried the disease with them. The first reliable intelligence concerning the disease reached England on the 26th of June, by telegraph, which was afterwards con-

firmed. Cholera first appeared in Alexandria on the 11th of May, just eleven days after the commencement of the Mahomedan festival of the *Kerban Bairam*, and was brought thither by a returning pilgrim. The portion of the town in which the first case appeared, was one of the worst, and was inhabited by the very lowest class of Arabs, Greeks and Maltese. From this one case the disease appeared to radiate, the deaths for the first four days not numbering more than one each day. In two weeks the deaths had increased to thirty a day, and in five weeks to one hundred and eighty-three per day. During all this time the sanitary condition of the town was disgraceful, and the water supply, derived from the Nile Canal, was charged with the decomposing matter derived from upwards of seven hundred dead carcasses. During the course of the epidemic in Alexandria, the city was visited by a violent wind storm from the south, called a "chamsin." It began to blow on the 24th of June, and continued till the 6th of July. It was exceedingly oppressive, and was believed by many to intensify the disease. On the third day it came, the mortality rose from one hundred and eighty-three to two hundred and fourteen. It then gradually fell, till, on the last day of the wind, the number of deaths had fallen to 142. As, however, the character of the wind during its prevalence was much the same, the fact that from the third day of its appearance the mortality gradually fell, proves, I think, that the cause of the increased mortality during its first three days was not due to it, but to local causes. Among the European population the disease made little headway, and it is asserted that the better class of Europeans escaped almost altogether, while among the Arabs the disease was very severe. The dwellings of the lower population were very unclean, many of them being occupied by man and beast. This state of things, however, is not confined to Alexandria, for, in truth, the same remark might be made with reference to Montreal—even here, palace and hovel standing side by side. From Alexandria the disease spread to the native villages and towns in the neighbourhood, committing great ravages, especially in Delta, and the towns of Tantah, Mansure, &c. From thence to Cairo, where it appeared early in June, raging for about a month, and then declined. For a time it was believed that the disease would not extend beyond Alexandria and Cairo, but this hope was soon dispelled, for about the middle of July a few cases occurred in Ancona, a seaport situated on the Gulf of Venice. It contains a population of about forty thousand, and, like most old towns, is closely built, badly drained, and ill-supplied with water. I have now shown that by the 12th of July cholera had established itself at four great centres. I have described, so far as I have been able, its origin at Mecca, among the

pilgrims. From this, what places were more likely to be visited from the completeness of their intercommunication than those where the disease did appear, viz., Alexandria, Cairo, and Ancona? About the same time that it made its appearance in Ancona, it also broke out at Constantinople, there being forty-three fatal cases reported on the 13th July. How the disease reached this large and populous centre we are not left in doubt, for it is known to a certainty that the disease was imported from Alexandria, by the man-of-war *Makbiri Surur*, which arrived at Constantinople, and put on shore, on the 28th and 30th of June, twenty-one persons suffering from cholera. They were conveyed to the Turkish arsenal. Up to this time, not a single case of cholera had occurred, and the general sanitary condition of the town was considered good. On the third of July, the first case of cholera occurred among the soldiers at the arsenal, and the number of cases increased daily. On the 16th of July the disease appeared in that portion of the city bordering upon the arsenal, from which the disease spread with great rapidity. The character of the epidemic in Constantinople was very severe, large numbers of the patients dying within the first twelve hours or twenty-four hours. As a rule, premonitory diarrhœa only preceded the real attack a few hours. Many patients who did not succumb to the cholaic attack, had typhoid symptoms supervene, which carried them off. The action of the Turkish Government was very commendable, an extraordinary commission of public hygiene and salubrity being formed. This commission went immediately to work; over-crowded dwellings were emptied, and the inmates ordered into tents and wooden barracks; the inhabitants were instructed by public placards how to protect themselves as far as possible from an attack; temporary cholera hospitals were established, and particular attention was paid to the immediate removal to these hospitals of poor people suddenly attacked in the street. For carrying out these measures, physicians were appointed for every quarter of the city, and numerous assistants were allotted them. Medicines were distributed and food given to the poor. The sale of all fruit and vegetables was prohibited, and lists of all deleterious articles were distributed. In this connection I may state that, owing to the great demand for vegetables among the lower classes, who live in a great measure on a vegetable diet, and the difficulty of carriage, they are nearly always brought into the city in an unripe condition. Being eaten in this state, diarrhœa is not an uncommon complaint. Hence, in all probability, the cause of prohibition. As the disease increased in severity, a perfect panic seized the population; and according to governmental returns (the means of transit being furnished by the government gratituously) over 400,000 persons

quitted the city for the interior. No general work was done, all public institutions were closed; even in the government offices very little work was done. As the mortality increased, so did the panic, and past experience was again verified by the plainly deleterious effect of fear. Many things tended to produce the rapid spread of the disease, when it had once been produced, principal among which was the bad drainage of the city. The only drains are open ditches in the middle of narrow streets, their sluggish contents emptying into the almost stagnant waters of the Golden Horn, the current of the Black Sea passing by the entrance of the port, leaving the water in the harbour almost unchanged. The burying grounds were, beyond a doubt, also a fruitful source of epidemic disease. There are a number of them in every portion of the city; and when I state that, owing to a religious superstition, their dead are seldom interred beyond two feet from the surface, the extent of their influence on an epidemic disease may well be imagined. The arrangements of Turkish houses renders them very unhealthy. All offal and filth is thrown into the street, and what is not consumed by the dogs, remains to be decomposed by the sun, till it becomes a mass of putrefying animal and vegetable matter. On the 8th September the disease was gradually dying out at Constantinople, there being, comparatively speaking, but few cases daily. No official returns of the number of deaths has yet been published, but a Dr. Dickson, writing in the *Medical Times and Gazette*, states that up to the commencement of September 40,000 deaths had taken place, among them being twenty-seven physicians and their assistants, who fell in the midst of their work. In August the mortality rose as high as 1500 daily, and continued at that high figure some ten days. Before I take leave of the epidemic at Constantinople, I would allude to the contagiousness of cholera, a question which has given rise to not a little discussion, and which is yet undecided. My experience when a student, during the epidemic of 1854, leads me to regard it as decidedly a contagious disease. In this connection I would relate an incident which I find in a medical journal, on the authority of an English gentleman who was in Constantinople during the height of the disease. He says, "In one instance the clothes, matresses, &c., of the sick were washed at a fountain, and unfortunately the water-pipe being broken, the foul water communicated with the clean, and in one day sixty persons died at Tatavola, a portion of the city which was supplied by the infected stream." This is a most important fact, and a repetition, so to speak, of what occurred at the Broad street, London, epidemic of 1854. In that case there was a well in Broad street, into which the contents of a sewer had been percolating for months. Of the water of this well hundreds of

persons had been drinking; and, although cholera had been present in other parts of London, there were no cases in St. James', the parish in which Broad street is situated. At last a choleraic patient made use of a privy that was connected, by means of the sewer, with the well, when more than 500 persons, receiving water from that source, were attacked within three days. I have shown that, by degrees, though not in an unaccountable way, the disease had reached and become active at three great centres. At Alexandria, commanding the whole of the Mediterranean Sea, from Tripoli on the east, to Barcelona on the west; at Ancona, commanding the Gulf of Venice, and at Constantinople, commanding the Black Sea. From two of these it spread in a manner which can be traced. From Alexandria it was conveyed to Gibraltar, and the little island of Candia; and from Constantinople it moved round the shore of the Black Sea, making its appearance on the south-eastern coast at Trebizond, at all of which places it raged with great severity. The first case occurred at Gibraltar on the 28th August, and was of a mild type. The disease gradually increased in severity and fatality till the 18th September, when over one hundred fatal cases had occurred—many of them being convicts. In fifty-six days the mortality was 380, a heavy list for a population of 24,000, including the garrison. The largest mortality in one day was twenty-four. The disease appeared at Malta early in August, and the last case on the 3rd October. The population of the island is computed at 120,000. 1871 persons were attacked, the total number of deaths being 1150: the percentage being 61.44. These statistics do not include the military, 200 of whom were attacked—140 of whom died. In the Island of Goza, near Malta, the disease appeared about the same time that it did in Gibraltar, and up to the 3rd October, when it was rapidly disappearing, it had attacked 476 persons, and destroyed 225, the mortality being at the rate of 47.26 per cent. It is a fact worthy of note, that while cities in communication with Alexandria—as Constantinople, Smyrna, Ancona, Gibraltar, Malta, &c.,—suffered from the disease, Sicily, Greece, and the Barbary States (which prohibited intercourse) have escaped the dreaded infliction.

At Marseilles the cholera appeared on the 11th September, and from that period to the 17th, 108 deaths had occurred. A large staff of physicians and apothecaries were appointed by the authorities to give immediate attention to the poor, and large bonfires were lit to disinfect the air, according to the fashion of olden times. In this place the outbreak varied in intensity, and on the 21st of October it was gradually disappearing. At Toulon it appeared on the 6th September, and at last accounts was still present. From Marseilles the cholera was conveyed to

Paris by means of a traveller who, almost immediately on his arrival in the French capital, was seized with the disease, which terminated fatally in that portion of the city known as Montmartre. This was about the 22nd of September, and from that day till the 1st October forty cases occurred, with twenty deaths, most of them being in that portion of the city where the first case occurred. On the 28th of October the number of choleraic cases admitted daily to all the hospitals had risen to 250. On the 21st October the Emperor visited the cholera patients in the Hôtel Dieu, passing an hour in their midst. On the 23rd the Empress visited several hospitals, following the example of her husband. Thus the disease has steadily increased, and we have yet to hear of its decline. The persons attacked have been principally the poorer classes, living in crowded localities, though the servants of several rich families have been attacked. Owing to the secrecy of the French Government, it is very difficult to get details of the epidemic. The disease has appeared and is still present at the following places in France: La Seyne, Nimes, Montpelier, Arles, &c.

Southampton being in direct communication with the Mediterranean by means of the mail steamers, and only four days' sail from Gibraltar, where these steamers call, it is a wonder that cholera did not appear sooner there than it really did. The first case occurred on the 26th September, being that of a labourer, who had been engaged cleaning a cess-pool, and terminated fatally in thirty-six hours. This was followed by another on the 28th, the patient, a robust man, being in perfect health previously; this one also ended fatally in nine hours. The authorities, being fully alive to their duty, took energetic means to prevent the spread of the epidemic, and, although the disease still continues in the city, the cases are not very numerous. For the week ending October 21, the number of deaths from cholera was only three; one of the fatal cases was that of the health officer of the town, who fell a victim to his close attention to the sanitary condition of the city. About the 1st of October the disease appeared at Bitterne, about three miles from Southampton, seven cases having occurred in the practice of Dr. Osborne. Four of these died, two recovered, but regarding the termination of the other one, I have been unable to find any record. Three cases occurred in the practice of other physicians. At the time of the outbreak there was a marked tendency to diarrhœa all over the district of Bitterne. At Shoaling Common, four miles from Southampton, two fatal cases occurred before the 3rd of October, but I believe no others have been observed. At Epping, in Essex, a singular outbreak of cholera occurred about the end of September and first week of October—the disease being confined to one household, or those in immediate relation with it. A Mr. Groombridge,

from near Epping, with his wife, had been complaining for some time of being "out of sorts," Mrs. G. having suffered somewhat from diarrhœa. They consulted a London practitioner, to whom they stated that the water of the well, which constituted almost their entire supply, had an unpleasant odour, and nauseous taste. On examination it was found to contain sulphurretted hydrogen, with a considerable quantity of organic matter. On further examination it was discovered that there was a leakage from the cess-pool of the house into the well, about two feet six inches from the surface. On their way home, Mr. and Mrs. Groombridge passed through Southampton (where cholera was present), stopping over two days. Here, doubtless, the specific poison was taken into the system. Before reaching Epping she (Mrs. G.) was seized with diarrhœa, and pain in the stomach. She reached home on Monday, September 26th; and, on the following day, a medical man was called to see her. The symptoms were not urgent, being simply those of diarrhœa in a modified form. On the 28th September, the third day after she left Southampton, the symptoms suddenly increased, vomiting and rice water evacuations being present. She was treated with small doses of calomel and opium—two grains of calomel with half a grain of opium—to which was added an effervescing ammonia saline. The treatment gave much relief, the character of the evacuations being changed to a dark, slimy appearance. On September 30 she was considerably improved when, a little after ten, her daughter, aged seven years, was seized with cholera. The first symptoms were vomiting and purging, and at noon the evacuations were of the rice water character. Collapse came on late in the afternoon; and, a little past seven o'clock in the evening, she breathed her last—somewhat less than nine hours from the attack. A farm servant living in the house was also seized the same day, but, after a severe struggle, recovered. On the 2nd of October, early in the day, another daughter of Mr. Groombridge was attacked, as was also the housemaid; but though the symptoms were severe, they both recovered —the girl dying a week after, of a supervening attack of typhoid fever. The treatment consisted of ten minims of dilute sulphuric acid, ten minims chloric ether, and five minims of tinct opii, in water, frequently repeated. Both suffered subsequently from typhoid fever. On the evening of the same day, at nine o'clock, one of the medical gentlemen in attendance upon the cholera patients was seized with the disease, and died in ten hours. For a few days it was thought the worst was past, no new cases occurring, but on the 6th October there was a fresh outbreak, when Mr Groombridge, one of his labouring men named Riley, Mrs. Parsell, (the mother of Mrs. Groombridge), and Master Charles Groombridge,

were seized with the prevailing epidemic. Mr. Groombridge sank in about ten hours; Riley sank on the following day, the 7th; Mrs. Parsell recovered from the choleraic attack, but suffered subsequently from typhoid fever, and died on the 14th, from asthma; the only one that recovered of the four attacked being young Mr. Groombridge. The treatment of all these cases was sulphuric acid, chloric ether, and opium A woman who laid out the body of Riley was taken with the disease a few hours after completing her task. In this case all the usual symptoms were soon present—the cramps being very severe. Under four grain doses of calomel every three hours, the rice water stools changed to dark feculent. She died in sixteen hours from the attack. On the 9th. Mrs. Groombridge, the first of the family seized, and who had recovered from the cholera symptoms, from mental anxiety (due to her husband's death), became prostrate, and died on the 10th. This sad outbreak conveys a most instructive lesson. Mr. and Mrs. Groombridge, while journeying home, stayed over at Southampton, just about the time of the outbreak in that town. As she was seized with diarrhœa on the subsequent journey, and with choleraic symptoms soon after arriving at Epping, a fair supposition is, that the poison was taken into the system during their stoppage at Southampton. The subsequent outbreak is clearly traceable to the matter of the choleraic stools entering the cess-pool, and from it through the leak into the well, from which all in the house derived their supply of water. It thus became a virulent intestinal poison. There has not been any other cases at Epping, which fact renders the outbreak still more interesting. The Groombridge house stood high, and half a mile from any other dwelling.

Thus far the metropolis (London) has escaped the epidemic, although the returns of the Registrar General, for the week ending November 4. note four deaths from cholera. On a closer investigation of them, we find that the symptoms were not those of true Asiatic cholera, but a more aggravated form of diarrhœa.

Up to the present time (Nov. 18) we have not heard of any cases of cholera on this continent, although the public was greatly excited by the arrival of the steamship *Atlanta* at New York, on the 2nd instant, from London, via Havre, having had, during the passage, some sixty cases of cholera—fifteen of which proved fatal. The *Atlanta* had on board forty-eight cabin and 500 steerage passengers—the latter principally Germans. Among the former, the disease did not appear, it being entirely confined to the steerage passengers. On her arrival at New York, the vessel was ordered back to quarantine, where all the sick were at once removed to a floating hospital, and the remainder placed in well

ventilated quarters, no communication on any pretence being allowed with the city. After her removal to quarantine, and up to date, only two fresh cases have occurred, and the probability is, that, for the present, the disease has been stayed. It now depends upon the strictness and length of time that quarantine is observed, whether the disease will be prevented altogether from effecting a landing on this continent.

Thanks, then, to the admirable and stringent regulations adopted by the New York quarantine authorities, the disease has been confined to the *Atlanta*. Had it reached the city, it would have found it well prepared for its reception, for, if I read correctly, New York is indeed in a fearfully filthy condition. But not alone of New York, I fear, can this be said. By letter and otherwise I have heard that, at least many places in Canada West are ripe for cholera, should, unfortunately, it be conveyed there. Of Montreal it would seem almost idle to write a word. No one blessed with good eyesight, and a good nose, could possibly fail to notice daily in his travels, the filth and decaying vegetable matter which abounds on every hand, in back lanes, and even in crowded thoroughfares; slaughter-houses, reeking with putrifying matter, impregnating the air with the most abominable stench, are not uncommon, but exist in the midst of densely populated districts; pig styes, the filthiness of which surpasses description, are in certain sections to be found, several in every street; while, in cellars and hovels, man and beast often occupy the same room. Could one-half of the population have an insight into the scenes witnessed and places visited by a physician in general practice, there would be such a weight brought to bear on the city authorities that they would be compelled to move in the matter. But now, though danger is staring us in the face, that worthy body allow a report of the health committee, presented nearly three months ago, to lie on the table, no action whatever being taken in the matter. This report contained many excellent suggestions, the non-adoption of which throws upon the shoulders of the city council a most grave responsibility. I wish they could appreciate it; but I fear the history of the past will be what we will have in the future: for, strange as it may seem, there is no subject upon which it is so difficult to rouse public attention as that of the sanitary condition of a city.

I have thus, in as brief a manner as possible, endeavoured to trace the origin and progress of the present epidemic of cholera. There has been no lack of material from which to gain information, my chief difficulty being the amount of matter I had to consult, and a very limited time in which to do it. Nor will, I trust, this investigation be destitute of profit, for it proves that the disease originated among a mass of unclean men,

brought together under circumstances favourable to its propagation. Whether something may not be done in the way of preventing these large pilgrim gatherings, in the past so fertile a source of disease, will doubtless be a subject of investigation by the sanitary commission proposed by the French Government. An investigation of the progress of the disease proves that in the majority of instances it travelled from one coast town to another by a ship or steamer, and from a coast town to an inland town by a person going from the former to the latter, in both instances the germs of the disease being conveyed thither. From all the facts, there can be no doubt of the correctness of the following deductions, drawn by the *Medical Times and Gazette*, that cholera requires,

1. A centre of pollution for its cradle.
2. A ship for its transport.
3. Cities and towns properly prepared for its reception and development.

Traumatic Tetanus, treated by Acupuncturation. By JAMES ALEXANDER GRANT, M.D., F.R.C.S., Edinburgh, M.R.C.P., London, &c.

In this section of Canada, tetanus is by no means an uncommon disease. In Ottawa City, during a practice of twelve years, ten cases have come under my personal observation, and all of a traumatic character. Nine were treated with the various remedies of the day, without favourable issue, death taking place in seven cases during the height and intensity of the disease, and in two, death appeared to result from exhaustion during the decline of the disease. In an able article on tetanus, by Campbell De Morgan (Braithwaite's Retrospect, part 39, p. 65,) the opinion is freely expressed, that "all we can do is to enable our patient to weather the storm by giving him as much strength as possible, and not adding fuel to the flame by all sorts of applications and internal remedies, which have over and over again signally failed." Such was the opinion of the great Hunter, and such could not fail to be the impression made on the minds of those who have considered the various methods of treatment from time to time adopted for the relief of this disease. In the following case, having failed to counteract the disease by ice to the spine and cannab. indic internally, as a *dernier ressort*, I had recourse to acupuncturation on either side of the spinal column, from the occiput to the sacrum. The beneficial influence was so rapid and marked, that I considered the facts should be noted, so that this simple method of treatment might be tested.

W. Hunton, æt 37 years, of moderate stoutness, regular habits, and

generally in the enjoyment of health. Engaged as an operative in a saw mill. July, 16th, 1865, while in the act of rectifying some portion of machinery, he received a wound from a circular saw, over the right frontal eminence, and a small portion of the bone was denuded of its periosteum. The injury was attended to immediately, and at the expiration of two weeks, healed without any difficulty. On the fourth day after the accident, the orbicularis palpebrarum of the right eye became contracted, and on the eighth day the muscles of the jaws and neck became more or less rigid. July, 26th. Stiffness of the jaws became so much worse, that he was unable to open his mouth more than half an inch, and he experienced great difficulty in swallowing. July, 27th. Removed to the city and came under my charge. Tetanic expression of the face very marked, skin cool, pulse 80 and full, urine voided in normal quantity, high coloured, abounding in lithates, sp. gr. 1.020, bowels confined, sleep disturbed for several nights; complains of stiffness in the neck and back, extending to the muscles of the chest and abdomen; able to walk about his room at a slow pace, could talk moderately distinctly but with some difficulty. At this time there was no spasmodic action of the muscles of the back or abdomen (opis or emprosthotonos); croton oil and colocynth were given. On the following morning (July 28) there was trismus; the mouth firmly closed, bowels acted freely during the night, skin cool, pulse 85 and feeble. Muscles of the face unaltered, masseters and buccinators rigid. During sleep moderate relaxation occasionally took place, at which time the cheeks were frequently bitten, when spasmodic action set in. To avoid this, the patient placed a small piece of stick between his teeth. The intellect was quite clear.

Ordered R. extract. cannab. indic. alchohol, gr. xxiv.

Alchohol dilut..... ℥ j

A drachm given every two hours, in a tablespoon full of water, also pounded ice to be applied to the spine. Beef tea to be given freely. 9 p.m. Ordered calomel, gr. ij, pulv. opii, gr. ij. July, 29th. 9 a.m. There had been a few hours sleep, and the patient had swallowed about two pints of beef tea. In all important points the symptoms continued the same until August 1st, when he grew much worse. The forehead became wrinkled, the muscles of the neck, chest, and abdomen, became very tense, the trunk was slightly arched backwards, and the muscles on either side of the spine were very rigid. Those of the arms and legs were unaffected. The sternocleido-mastoid appeared thrown forward, and the interspace was deep and well defined. The skin frequently became bathed with perspiration, and the respiration difficult, owing to the inability to expand fully the thoracic walls, from the rigidity

of the proper respiratory muscles. Clonic spasms came on about every two hours, giving rise to great pain at the scrobiculus cordis; skin cool; pulse 90 and feeble; pupils natural, acting readily to light, and the intelligence was unimpaired; bowels relieved by an enema of warm water. 9 p.m. Much in the same state. The abdomen feels hard, and he complains of an increased pain in the back since morning.

Ordered chlorydone gtt. xx, in an ounce of water. The mixture continued every three hours, and ice to the spine as formerly.

August 2nd, 9 a.m.—He passed a restless night, but slept at intervals, about three hours towards morning.

Skin warm and moist; pulse 85, soft; the extreme tip of the tongue only can be protruded. He had several severe spasms during the night. The mixture to be continued, also the wine and beef tea.

8 p.m.—Much in the same state, excepting that his urine is voided with some difficulty; acid reaction, unaffected by heat or nitric acid, and on standing for some hours, deposits a considerable quantity of lithate of ammonia; ordered morph. acet. gr. $\frac{1}{2}$.

August 3rd, 1 a.m.—Much worse, his jaws closed and expressive of great suffering. He had frequent spasms affecting both the arms and legs, and could not articulate, without considerable difficulty, each effort being attended by a spasm. His respirations were hurried, and at times the whole body became quite stiff, the extremities becoming extended to their utmost and the soles of the feet quite concave. The extremities being cold, hot bricks were applied; sinapisms over the heart, and the wine and beef tea given freely. The difficulty of swallowing was so great that liquids could only be taken in very small quantities; pulse 100 and small. Mixture discontinued. At this time, Dr. Beaubien of the General Hospital visited him in consultation. Ordered morph. acet. gr. $\frac{1}{2}$

9 a.m.—He had frequent severe spasms during the balance of the night, and only slept at very short intervals. Bowels relieved by a castor oil enema, otherwise there was not any favorable change to be observed. At this stage of the disease, finding the prospect of recovery becoming more unfavorable, I resolved, to have recourse to acupuncturation. Three (number nine) needles were forthwith inserted into the muscles of the neck, on' either side, and within an inch of the spinous processes of the cervical vertebra. The needles were separate from each other longitudinally, fully an inch. Prior to this operation the muscles of the neck were firm and rigid, and a perfect inability to rotate the head upon the shoulders. The needles were inserted with difficulty, owing to the great tension of the muscular structures. Very slight pain was experienced

during the operation. No sooner had they been inserted than the poor man cried out "Thank Providence," I have got relief. The needles were removed after one minute. He was then able to move his head laterally with considerable ease, owing to the most marked reduction of the muscular tension. The needles were removed with much greater ease than they were inserted. The power of deglutition was now also increased. Having observed the marked improvement after the first operation, the needles were inserted each day in the rigid muscles of the cervical, dorsal, and lumbar region.

August 6th, 9 a.m.—Passed a good night, experienced very little pain in any part of the body; the countenance cheerful, and he enjoys his beef-tea and wine and arrowroot. The jaws have relaxed fully two inches, and he can swallow with freedom. The paroxysms sometimes are felt, but at long intervals, and so slight as to cause very little uneasiness. From this date he continued to improve without an unfavorable indication, the rigidity of the various muscles rapidly giving way under this treatment.

August 22nd.—He returned home almost perfectly well, only complaining of the weakness resulting from the marked severity of the attack. I have since learned that he enjoys his usual vigour of mind and body. Drs. Macdonell, Beaubien, Graham, and Reill, and several medical students witnessed the very satisfactory effects of this mode of treatment. Having frequently given immediate relief in cases of sciatica, by acupuncturation, I was induced to test the effect of needles in tetanus, doubtful as to any beneficial influence being exerted thus, in a disease, the various phenomena of which are said to depend upon an "*unnatural excitability*" of the spinal cord. However, in this disease, every hint is of more or less value, more particularly owing to its intractable nature, in the treatment of which "almost every expedient and every medicinal resource that ingenuity or skill could devise, has been tried, but in vain: for a remedy that has appeared to produce good effect in one instance, has totally failed in another under similar circumstances."

Should this method of treatment prove beneficial in other cases of tetanus, it would likely be that class in which lesion of the spinal cord is either not present, or present only in a very slight degree. In tetanus, according to Bowman, under the microscope, the primitive fasciculi exhibit the characteristic signs of extreme contraction, and a closer approximation of the transverse striæ than usual. Just in proportion as muscular relaxation took place, the insertion of the needles became more painful, which circumstance led me to infer that the pressure exerted by tetanic muscular rigidity on the minute nervous filiments, which cross

the fibrillæ in loops, might account for the reduction of sensation, during the first acupuncturation.

Editor's Note.—We received the above interesting paper from Dr. Grant as we were going to press. As the Dr. expressed a wish that it should appear in the November number of the journal, we put it in hand immediately. After the form was made up, we received another note from the Dr. stating that it had already appeared in the columns of the London *Medical Times and Gazette*. We deem this explanation necessary, as the paper is found in our Original Department.

REVIEWS AND NOTICES OF BOOKS.

Hand Book of Skin Diseases for Students and Practitioners. By Thomas Hillier, M.D., London, Member of the Royal College of Physicians, Physician to the Skin Department of University College Hospital. Philadelphia: Blanchard & Lea. Montreal: Dawson, Bros. 1865.

It is a somewhat singular fact that, generally speaking, there is a lack of knowledge among practitioners concerning skin diseases. Various reasons contribute to this result, principal among which however is a lack of literature upon the subject. This want is being gradually met, and we are confident that the work before us is calculated to give the student and the practitioner a large amount of valuable information. It is a thoroughly practical treatise, and embraces all the latest discoveries of continental dermatologists. One feature of the work, especially worthy of notice, is the simplicity of the treatment recommended. There is no unnecessary multiplicity of remedies, and especial care is taken to impress upon the reader the necessity of studying the diseases of the skin, in connection with other diseases—of which not unfrequently the skin disease is but a symptom. The work contains a number of drawings, illustrative of the microscopic appearance presented by the hair and cuticle, when affected by vegetable growth.

The Physician's Visiting List for 1866. Blanchard & Lea, Philadelphia. Montreal: Dawson Brothers.

It seems almost needless to do more than acknowledge the receipt of this little work, so indispensable to every physician. No one who has used it would be without it for twice its cost; but to those who do not make use of it—and we know several—we can recommend it in the strongest terms. It is arranged for twenty-five, fifty, and even seventy-five patients a day.

PERISCOPIC DEPARTMENT.

Surgery.

OVARIAN TUMOUR; OVARIOTOMY: DEATH FORTY HOURS AFTERWARD, FROM SHOCK OF COMMENCING PERITONITIS.

The tumour before you I removed from Bridget M., æt. 26 and ten months, who was admitted into the hospital Aug. 9th, 1865. The patient was unmarried. She first noticed a movable tumour in the left iliac region, about the size of a hen's egg; her menses continued to appear regularly until four months ago; since then she has had no appearance. Her general health has been uniformly good. The tumour remained almost stationary until six months ago, when it began to grow very rapidly, but more particularly within the last two months. On her admission the abdomen measured in circumference at umbilicus 40 inches; ensiform cartilage to umbilicus 8½ inches. Between anterior superior spinous processes 18 inches. From median line to left anterior spinous process 10 inches. From median line to right anterior spinous process 8 inches. From umbilicus to left anterior superior spinous process 10½ inches. From umbilicus to right anterior superior spinous process 9½ inches.

There was considerable effusion in the abdominal cavity, but the tumour could be readily moved from side to side, and by pressing its under surface, it could be elevated a considerable distance, showing the pedicle to be of some length, and showing no attachments to the neighbouring organs. The tumour presented indistinct fluctuation, and was irregular, of firm consistence, and nodulated as the disease was rapidly advancing. The immense distension of the abdomen produced such a great amount of distress, and the weight of the tumour being more than the patient could well carry, she desired the operation. Much appeared to be in her favor,—youth, good health, single tumour with a long pedicle, and no adhesions.

Thursday, Aug. 17, 1865. *Operation.* Assisted kindly by Drs. Agnew and Wilson. Drs. Pancoast and Meigs were present. I commenced the operation by making the usual incision of four inches immediately below the umbilicus; a large quantity of abdominal fluid was drained off, when the tumour appeared at the wound. The large ovarian draining trocar was introduced into the tumour, but the contents were so thick and tenacious, resembling soft soap, as to be unable to pass through the canula, an incision was made into the tumour, and the con-

tents squeezed out. The walls of the cyst were very thick, in some places of almost cartilaginous hardness. It was found impossible to get the tumour through the wound, which was enlarged above and below some three inches, when I introduced my hand, and readily turned the mass out. The pedicle was found to be very broad, and running all along to the fundus of the uterus, involving the whole of the broad ligament, and the tumour was cut away, the pedicle being secured by passing two long pins (at the suggestion of Dr. Pancoast) through it, being retained outside of the incision, which was then closed by six superficial and three deep sutures. Only a few ounces of blood were lost, and the contents of the belly little disturbed. A flannel bandage was then applied, and the patient put to bed. The reaction was very good, and for twenty-four hours the patient slept and had no pain, and seemed perfectly comfortable. She then had a slight chill, abdominal pain, and rapid collapse followed, forty hours after the operation.

Post Mortem. No hemorrhage, and no effused blood or contents of the cyst in the cavity of the abdomen, a very slight quantity of serum was present, and some lymph; free diffused peritonitis; right ovary healthy. The tumour is before you, and is a non-malignant proliferous cyst, the solid portion weighing thirteen pounds, the fluid portion ten pounds, exclusive of the peritoneal effusion, which amounted to at least ten pounds, making the entire mass weigh some thirty-five pounds.

CASE OF LARYNGITIS, WITH ŒDEMA OF GLOTTIS—LARYNGOTOMY —RECOVERY.

(Under the care of Mr. Hulke.)

The following case forcibly illustrates the efficiency of Sylvester's method of artificial respiration. The extreme exhaustion of the patient induced Mr. Hulke to prefer laryngotomy as being generally attended with less bleeding; here, however, the bleeding was very profuse. The patient cannot discontinue the tube. Mr. Hulke thinks this more frequent after laryngotomy than after tracheotomy, and attributes it in part to the disturbance of the mechanism of the larynx by the tube.

A woman, aged about twenty-six, while under Mr. Moore's treatment in Regent Ward, for disease of the uterus, was seized with acute laryngitis. At half-past eleven o'clock on the fourth night Dr. Thompson sent for Mr. Hulke, in Mr. Moore's absence, to consult respecting the necessity of bronchotomy. She lay speechless, semi-conscious, making shallow, feeble, hissing inspirations, at long intervals. Scarcely any air entered the lungs. Her pulse, about 120 per minute, could hardly be

felt. Her features were pallid and dusky. Laryngotomy was rapidly performed with a scalpel. Black blood welled up very profusely for several seconds on dividing the crico-thyroid membrane, but it ceased to flow on putting in the tube. Much viscid mucus and a little blood were immediately coughed out from the trachea. She became pulseless, and ceased to breathe. A few of Sylvester's acts were followed by a few weak spontaneous inspirations. Natural respiration again ceased, and Sylvester's method was again successful. This happened thirty times between twelve and four o'clock a. m., when natural respiration was permanently reinstated. Directly after the insertion of the tube in the larynx, beef tea and brandy were thrown into the rectum; and this was repeated hourly. At eight o'clock, a. m., respiration easy; pulse stronger, 120. She had swallowed a few teaspoonfuls of brandy and water. The supervention of pneumonia made her recovery doubtful for several days, but she rallied under the free exhibition of stimulants. The tube was removed on several occasions, but each time, after a few hours, when the opening had become contracted, her dyspnœa was so great that it had to be resumed, and she is still obliged to wear it.—*Medical Times and Gazette.*

Medicine.

BRONZING OF THE SKIN FOR SEVEN YEARS—DEATH—AUTOPSY DISEASE OF THE SUPRA-RENAL CAPSULES.

(Under the care of Dr. Gull.)

The great interest of the following case is the long duration of the disease, and the fact that the disease of the supra-renal capsules was predicted five years before death. No doubt whatever was manifested before the autopsy that there would be found a certain kind of disease of the capsules. Whatever relation there may be betwixt bronzing of the skin, or rather the disease of which bronzing of the skin is the most striking feature, and the disease of the capsules, it is a fact that from the existence of the one the other is often correctly predicted.

William J. was admitted under Dr. Gull's care, September 26th, for morbus Addisonii.

He was first admitted under Dr. Gull's care, November 22nd, 1860. The case was then recognised as one of morbus Addisonii. At that time the patient said that the darkening of the skin had been noticed *two years* before. For several months before his admission it had not increased. He had lost flesh very much; was extremely feeble; complained of pain in his limbs; at one time had sickness every morning. Sometimes his

sight was dim after he first rose. He had had hæmoptysis and cough, with puriform expectoration. The physical signs of phthisis were not decided. The face was "of a brownish tinge," and the lips were of a brownish hue at the point where they touched. The upper extremities were paler. The abdomen was very dark. The legs were less dark than the thighs.

After this he was repeatedly admitted into the Hospital. He had a disease of the left foot, which gave him much pain at the time.

He was admitted for the last time September 3rd, 1865. He was then very brown; the nipples especially were tinged; also, the lower extremities, and particularly the legs. He was not emaciated.

Autopsy by Dr. Hilton Fagge.—The left lung was healthy, except a slight cretaceous nodule. The right lung at the apex was puckered, and contained chalky grains, scattered throughout its tissue. Lower down in the posterior border of the inferior lobe was some recent tubercle, which showed no tendency to break down.

Supra-renal Capsules.—They were small and contracted. The right was firmly adherent to the liver, seeming about to be imbedded in its tissue. It was everywhere hard, and on section showed a quantity of fine white tissue, as well as calcareous matter. The left was so imbedded in fat, and attached by fibres passing through the fatty tissue, that its outline could not be defined. It also formed a hard mass, and contained calcareous matter, which, however, was mixed with a viscid fluid, contained in the interior of the capsule, and which escaped during removal of the organs.

The bones forming the left ankle joint (the tibia and the astragalus), as well as others of the tarsal bones, were soft, and easily cut by the knife. On the section they presented either a yellow (fatty) or a red appearance. None of the joints themselves were found to be in any way diseased. The ankle joint was healthy.

CONTAGION—THE PASSAGE OF GERMINAL OR LIVING MATTER FROM ONE ORGANISM TO ANOTHER.

By Lionel S. Beale, M.B., F.R.S.

Although the subject of *contagion* may seem to have little connection with inflammation, I find that the consideration of the properties of living pus leads me into the discussion of the nature of contagious diseases, and I shall therefore venture to make some remarks upon this most interesting subject.

Of the Vitality of Pus.—The vitality of the germinal matter of pus is

exceedingly great. Pus multiplies very rapidly, and certain forms may be carried from one living organism to another, without being destroyed —without losing their vitality. It is most interesting to notice that the faster the pus grows the more varied the conditions under which its life may still be carried on. Certain conditions which would have destroyed the life of the germinal matter of an epithelial cell may not destroy that of a pus corpuscle; the pus corpuscle may indeed flourish under conditions which would render the existence of the germinal matter of a normal cell quite impossible; and this power of existing under various conditions seems to increase as the multiplication of the mass of the germinal matter of the pus corpuscle proceeds. The capacity for living and growing under a variety of different conditions may proceed to such an extent that germinal matter originating in the organism of an animal may grow and multiply in that of man, and *vice versâ*. And we know that certain contagious diseases originating in animals may pass to man, and it is not improbable that some of those emanating from the human subject may be communicated to animals.

As I have stated before, this power of living is so remarkable that the pus corpuscles, or portions of the pus corpuscles, may be transmitted through the air without loss of vitality. It is in this way may be explained, I think, certain phenomena known in connection with the propagation of purulent opthalmia and other diseases in which pus is carried from one person to another. The pus corpuscles produced on the surface of the conjunctiva, or, rather, the minute offsets from them, may be transported through the air, or by clothes, etc., and, coming, into actual contact with a conjuctiva properly prepared by morbid processes for the supply of nutrient matter to these corpuscles, they grow and multiply. In this way pus corpuscles, or portions of pus corpuscles, perhaps not the fifty thousandth or the hundred thousandth part of an inch in diameter, may be transferred from one organism to another. Allied facts may be observed with reference to the propagation of gonorrhœal pus; and I venture to infer that the poison of syphilis is really germinal matter, which passes in a living state from the infected to the sound organism, and grows and multiplies in it. Many of the highly important facts recently discovered by Prof. Boeck support this view.

Certain living particles which have directly descended from the living or germinal matter of the tissue or fluids of an unhealthy organism may be transmitted in a living state to a healthy organism, and, being there supplied with proper pabulum, grow and give rise to the production of new particles like themselves; and although the nutriment material may be somewhat different, yet they grow and multiply, as they are capable

of living under a variety of different conditions. The action of vaccine lymph is, I think, due to the growth and multiplication in the vaccinated person of living particles which existed in the lymph taken from the vaccine vesicle. Nor is there good reason for denying the possibility of such living particles retaining their life when imperfectly dried, since we have the striking fact that many of the lower organisms retain their life, although desiccation has been carried to a very considerable extent. We know that complete dessication cannot occur without producing the death of any living particles; but comparative dessication may actually occur, and the small amount of living matter remaining may be sufficient to induce the changes with which we are familiar.

The Nature of the Poison of Contagious Fevers.—I think the above general views may be extended to fevers, which, I believe, are due to the passage from one body to another of living particles. These living particles consist of germinal matter, and have descended from the germinal matter of the organism itself. Many have attributed diseases of this class to the introduction into the body of a very low form of vegetable organism. But it is very doubtful if the growth and multiplication of vegetable germs can proceed in the circulating fluids of a living body, without causing death in a very short time; for the conditions favourable to their existence and multiplication are incompatible with the life of the germinal matter of the higher tissues. The germination and multiplication of very low vegetable or animal organisms in man and the higher animals are an indication not only that the death of the tissue has taken place, but that it is passing into a state of decomposition. It is true that bacteria have been detected in the blood of patients during life, but hitherto only in cases shortly before death, and at a time when the blood in which they grew and multiplied was no longer fit for nourishing the tissues, and was itself passing into decomposition. Millions of bacteria exist in the softened outer portions of the fibrinous clot of an aneurismal sac, and, therefore, in such close proximity to the blood, that it is almost certain that, from time to time, some pass into the current of the circulation; but if this were the case they would be destroyed, or else so altered that they would cease to multiply. For, before multiplication could take place, changes must have occurred in the composition of the blood which would render it incapable of supporting the life of its owner.

Many of these contagious maladies have been regarded as different species of "foul air" diseases. They are commonly termed *zymotic* or *fermenting diseases;* but no one has shown that these poisons originate in air, or that they really are of vegetable origin. Nor is it probable

that they are a species of animal—a sort of parasite, as some have supposed. Nor, there is good reason to believe, would such poisons have ever arisen if man had known the exact conditions necessary to ensure a healthy state of existence. Man has produced these pests himself, by establishing, without due care, artificial conditions of existence, in which over-crowding, dirt, and terribly diminished supply of air play no unimportant part. Nor let us conclude too hastily that these are *necessary* visitations. The results of scientific observation and practical experience tend to show that such scourges are preventible. Not only so, but there is much to convince us that many of these diseases are not only fostered and propagated, but actually caused, in the first instance, by ignorance, obstinacy, and indolence in domestic management.

The above considerations seem to me to lead to the conclusion that the *materies morbi* concerned in the propagation of various contagious diseases is not a low form of animal or vegetable organism, but germinal matter, which was originally derived from that which exists normally in the higher organisms. The living germinal matter forming the *materies morbi* of contagious diseases bears somewhat the same relation to the normal germinal matter of the blood, lymph or tissues, that a pus corpuscle does. Like pus, it results from the too rapid growth of the germinal matter. It is much to be regretted that the question cannot be definitely put to the test of experiment, but it will be admitted by all that the conditions which are favourable to the propagation of these contagious diseases are the very conditions which we should imagine would be favourable to the maintenance of the vitality of such masses of living matter as are supposed to be the active agents. If it were possible to produce this class of diseases in frogs or newts, I would almost undertake to make out the nature of the morbific agent as well as the changes which take place during the course of the disease; but as our observations are necessarily limited to man and the higher animals, in which minute investigation is remarkably difficult, much that I shall say will be but conjecture, although my conclusions are supported by many considerations.

It is not to be supposed that any one unacquainted with physiology would believe that a terrible and fatal malady could arise from the introduction into the body of a minute germ weighing less than the $\frac{1}{10,000}$th of a grain; but to those familiar with *vital* phenomena many facts will at once occur which afford considerable support to such a doctrine. The multiplication of bacteria and low animal and vegetable organisms, so very minute and transparent that they are scarcely visible even under a

power magnifying 3000 diameters,—the subdivision of pus and mucus corpuscles which may be *seen* under the microscope,—not to mention the wonderful powers residing in the infinitesimal amount of matter constituting the spermatozoon, are facts which must at once destroy the validity of objections grounded upon the minuteness of the particles of living matter supposed to be the active agents.

The origin, formation, transmission, and effects of the different contagious poisons which affect man and animals will, no doubt indeed, be regarded as *mysterious* and *inexplicable* by those who support the dogma that living things, like lifeless ones, are influenced by physics and chemistry only. But those who study the phenomena of living beings from a more general point of view, will see that these phenomena fall into the same category as many other actions and changes peculiar to living beings. By attentively studying effects we may reasonably hope to learn something of the nature of the forces concerned in their production; but if we adopt the arbitrary dictum that all the phenomena of living things are due to physical and chemical changes only, we shall not be likely to progress very far in such an inquiry as the present one.

The Vitality of the Poison of Contagious Diseases.—The fact of the poison of contagious diseases retaining its activity for some time after it has been detached from the organism in which it was produced, is not, as would at first, perhaps, appear, opposed to the view that this poison is living germinal matter directly descended from normal germinal matter: for certain kinds even of normal germinal matter retain their vitality for some time after they have been removed from the organism in which they were produced. I have demonstrated that the cells of the liver and other epithelial cells retain their vitality after they have been transferred to a glass slide, and a piece of skin and some other tissues may be detached, and their temperature very much reduced, without destroying their life; for if they be replaced in their proper position they reabsorb nutriment material, and again become an integral part of the organism from which they had been removed; proving that the masses of germinal matter retained their vitality during the whole time they were separated —or they may be even removed from one organism and made grow upon another organism of the same kind. As is well known, parts of the body may be exposed to extreme cold for a considerable time, so that sensation is destroyed and the circulation stagnates, without the death of the germinal matter of the tissues taking place; and as is well known, the death of many textures of the body does not occur until many hours after the cessation of the heart's action and respiration.

But there is a still stronger argument. We have the positive fact that pus will live for a considerable time in urine, and therefore we are quite justified in assuming that other kinds of germinal matter allied to pus, and capable of living under a still greater variety of conditions than pus, would retain their vitality in urine, fæces, and other excretions, as numerous facts establish in the case with regard to some forms of contagious matter. As we have positive evidence that minute particles of pus may pass through the air, or remain on sponges, clothes, etc., for many hours, without their vitality being destroyed, is it not reasonable to assume that the living matter of contagious diseases, supposing it to be allied to pus, should retain its vitality under the same, or under yet more adverse conditions? Does not this view receive confirmation from our experience with regard to the conditions which are favourable to the propagation of contagious fevers? A warm, moist atmosphere, small close rooms, with curtains, carpets, and plenty of clothes, rags, etc., so arranged as to cause air to be pent up in confined spaces with very slow interchange,—are the circumstances which favour the spread of contagion; and a disposition to prevent currents of air from finding their way into every part, or into any part of an apartment, is a mental characteristic of many of those who are too often sufferers from the worst forms of contagious diseases; while has not experience taught us that the converse of all this almost certainly prevents the spread of contagion, destroys the active material, or renders its assaults perfectly harmless? And would not free change of air, washing, frequently shaking of clothes, extreme cold, dryness, or a very high temperature, be likely to destroy the vitality of such particles of living matter as I suppose to be the active agents in the propagation of contagious disease?

It is not probable that the particles of germinal matter grow and multiply when removed from the living body. Multiplication could not take place as they are passing through the air; nor is it likely that their process could occur in particles attached to dry clothes. But the question whether such particles may grow and multiply in moist substances, as in excrementitious matters, remains open. It would be most interesting if pus, or any allied form of germinal matter, could be caused to multiply artificially, and the fact would doubtless excite much highly valuable speculation; but at present the experiments instituted for the purpose of determining this question have not afforded satisfactory results. No doubt multitudes of the germs of many contagious diseases are very frequently coming in contact with us; but, instead of multiplying at the expense of our nutrient juices, they die and become harmless. But, as is well known, there are conditions of the system which are favourable to

the growth and multiplication of such disease-producing germs, and it is for us to ascertain exactly what these conditions are. There is much hope that we may learn how men may be enabled to resist contagion, or be protected from its influence, and that we shall even be able either to extirpate the contagious poison, or even to confine it within a certain area. Moreover, the circumstances adverted to in this paper render it almost certain that if every disease-producing germ in existence could be destroyed at once, new ones—perhaps not of quite the same nature as those now existing, but very closely allied to them—would be generated. Although a state of society in which such care would be taken of the public health as would entirely prevent the production of disease-producing germs is theoretically conceivable, it is practically impossible that such a state could be established in the present condition of the civilised world.—*Medical Times and Gazette.*

ON THE TREATMENT OF ARTICULAR RHEUMATISM BY SUBCUTANEOUS INJECTIONS OF SULPHATE OF QUININE; WITH RESEARCHES ON THE HYPODERMIC ABSORPTION OF THIS DRUG.

Translated from the *Bulletin de Thérapeutique* for THE MEDICAL PRESS.

By ISAAC ASHE, M.B., T.C.D.

An important question in therapeutics is that of the absorption. In spite of its capital importance—in spite of the many labours directed towards throwing light upon it, this question is still enveloped in obscurity and uncertitude depending on the difficulty of analysing and discriminating all the causes which influence the intimate penetration of medicaments into the organism. We have gained some steps in seeking more rapid routes than those of digestion. Absorption, rendered more direct and more prompt, has been simplified. Withdrawn from manifold influences, therapeutic effects have manifested an exactitude and a precision hitherto unknown. Amongst new methods, that of subcutaneous injections has already rendered great services, and its sphere enlarges every day. Many months ago we gave ourselves up to investigations on the hypodermic absorption of sulphate of quinine. Some interesting experiments having been made in this direction, and recently related in scientific journals, I think it my duty to set forth the results I have obtained up to the present time. These results are not identical with those shown by other observers who have engaged in the same subject. The difference arises from the conditions under which we have experimented and the different ends we have had in view. Most drugs administered by the digestive tube produce effects which vary according to the state of the

channels of absorption as they are in a more or less favourable condition. A great portion of a drug is often eliminated, and, to confine ourselves to sulphate of quinine, it is certain that a portion of this valuable agent in general traverses the digestive tube without having had any other effect than that of causing irritation. When medical men have given up the administration of this drug by the mouth, they have had no better success in giving it by the rectum. All have remarked that the acidity necessary to obtain its solution and absorption is a serious inconvenience; it produces a local irritation, the result of which frequently is the expulsion of the injection. Besides we must take some account of the fact that sulphate of quinine absorbed by the rectum is rapidly eliminated; and even when its absorption has been certainly accomplished, the drug only occasions very transient physiological phenomena.

It acts but very little on the eyes and ears, its action is of short duration. Moreover, when we prescribe it as an injection in intermittent fever, we must give it an hour nearer to the occurrence of the fit than when we introduce it by the upper route. But sulphate of quinine is a remedy of such importance that we must not allow ourselves to be deterred by the want of tolerance for it in the digestive track. When the two routes of which we have just spoken have been, as it were, forbidden it, other modes of absorption have not failed to be discovered for it.

By means of rubbing in, fomentations, blisters, it has been attempted to cause sulphate of quinine to pass through the skin, by leaving it sufficiently long in contact with it. This method has rendered some service, particularly with children. Finally, when all other modes of causing absorption seemed exhausted, a new path was opened; the hypodermic method was invented. A physician of Smyrna, Dr. W. Schachand, introduced sulphate of quinine under the skin. More recently, M. Desoignes communicated to the Royal Medico-Chirurgical Society of London a great number of cases treated favourably by this means in Tuscany. But in all cases which we have become acquainted with through the journals, the experimenters have attempted the treatment of intermittent disorders.

For the first time I have attempted, under the auspices of M. Bourdon, to apply subcutaneous injections of the sulphate to the treatment of articular rheumatism. The results have been most satisfactory, and I have no hesitation in publishing them in order that, joined to those of other experimenters, they may be of use to establish rules for the administration of this drug, no less precise than those already laid down for narcotics.

In the cases with which our research has been concerned, it was nearly

always articular rheumatism that we had to combat. Frequently the drug has been administered from the first by the hypodermic method, but for the most part we had recourse to this means in consequence of the intolerance of the sulphate by our patients, when we had endeavoured to cause its absorption, first by the stomach and afterwards by the rectum.

We must take the opportunity of remarking that, practically, the method now under consideration ought not to be employed unless in cases where the digestive tube has undergone changes or is refractory, or in those where the state of the patient requires that the drug should produce a rapid effect. There is no doubt but this method furnishes excellent results in dangerous forms of intermittent fever, where it is so important to interfere in a prompt and certain manner; in fact in these cases the stomach often rejects the sulphate, and even where it retains it a fatal paroxysm often supervenes before sufficient absorption can have taken place.

The questions which we have endeavoured to answer are simply these: —1st—In certain cases where the digestive absorption of sulphate of quinine is insufficient or may produce evil results, is it possible to administer this drug without inconvenience by the hypodermic method? 2ndly —What relation ought to be established between the doses usually employed for internal administration and those which we should inject under the skin, in order to obtain as nearly as possible the same physiological phenomena.

One cannot with perfect impunity introduce into the cellular tissue a solution rendered acid to augment the solubility of the drug it contains; but the inconveniences which have been shown to exist are so trifling that they cannot set this method aside.

Our observations show that in spite of the comparatively enormous doses we have used local inconveniences are rare and unimportant. Still we must not overlook them; we even made some attempts to avoid them, and without doubt they will be of less frequent occurrence.

As regards our doses, our results are somewhat different from those of other experimenters, which results from the fact that our design was not to seek the means of curing some disorder by the use of the sulphate, but to obtain definite physiological effects identical with those which all practitioners have experienced from the administration of the sulphate in doses of from ten to thirty grains in the twenty-four hours. We have followed up these investigations by some researches on absorption and elimination.

The bibasic sulphate being only slightly soluble cannot be employed in this method of procedure; a much larger quantity of vehicle than one can inject leaves it still diluted only, not dissolved.

We have used the neutral sulphate which is formed when we treat the bibasic sulphate with a slight excess of acid, and the acid we at first employed was the sulphuric, without, however, overlooking the inconveniences that its irritating action might give rise to during absorption, owing to which it was necessary any sensible excess of acid beyond that which was indispensably necessary to effect the transformation.

The first solution we used had the following composition :

Bibasic sulphate of quinine, gr. xv,
Sulphuric acid, gtt. iii. to v.
Distilled water, ʒ iiss.

The sulphate had not always the same composition, and sometimes five drops of acid were necessary to obtain the same degree of solubility that was in general produced by three drops. Further, the too energetic action of the sulphuric acid, the difficulty of managing it, and the danger which might have resulted from a trifling inexactitude in the management of the dose, determined us to try the use of another acid, and we had recourse to the tartaric. M. Claude Bernard led us to make this substitution, because in his numerous experiments this eminent physiologist had always found that vegetable acids are better borne by the system than the mineral. The formula to which we finally gave the preference is as follows :—

Bibasic sulphate of quinine, gr. xv.
Tartaric acid, gr. viii.
Distilled water, ʒ iiss.

The instrument we used is well known, a little syringe in a graduated glass fitted to a perforated needle.

We varied the seat of the injections without inconvenience, generally puncturing the parts alongside of the vertebral column, sometimes the thighs or the arms.

During the first months of this year many rheumatic cases have been treated in the hospitals of Paris, and it appears from the official reports on prevalent maladies that rheumatism during this period was of unusual obstinacy. We shall not discuss the utility of the drug in rheumatism ; its beneficial effects are almost universally admitted ever since the beautiful experiments of M. Briquet revived this valuable but disused mean of treatment. We have observed that in cases where the subcutaneous injections were administered, the recovery has been at least as prompt as in those in which it was similarly given by the ordinary methods ; yet we must say in favour of these injections that in nearly all the cases in which they were used the patients were in the worst condition ; all suffered from derangements of the digestive tube that would have been rendered

worse by the administration of the sulphate by the mouth; many exhibited symptoms of intolerance of the drug and vomited it; some had rheumatic complications of the utmost gravity.—*Dublin Medical Press*

ON THE TRANSFUSION OF BLOOD.

Dr. Panum, on the above subject, has come to some important conclusions. Defibrination of the blood, he says, exerts no particular influence over the excretion of urea. The fibrine is quickly reproduced, and, in fact, becomes normal again in forty-eight hours. The fibrine again exercises no influence on the restoration of vital manifestations—a fact which proves that this substance is only a secondary product of tissue-formation, and not, as has been hiterto held, a body presiding over their formation. Hence, therefore, defibrinated blood must be held as infinitely superior to non-defibrinated blood when used for injections; because, by its use, the danger resulting from the injection of clots is avoided, and because defibrinated blood is more highly charged with oxygen than ordinary venous blood. Healthy human blood should always be employed; because, spite of experiments which always show that in animals the blood of an allied species may be used, there is always danger of its undergoing decomposition. The fibrinated blood may be preserved in ice, and warmed when employed in injections; but fresh blood is always preferable. When the case is urgent, there is no need for heating the blood to the temperature of the body; nor is there any danger in injecting large quantities of blood into the vessels. The surgeon should not wait until the last moment before he proceeds to the injection; because the operation is not in itself dangerous, if all due precautions be adopted in its performance.—*Brit. Med. Journal.*

Midwifery and Diseases of Women and Children.

A CLINICAL LECTURE ON THE STUDY OF CHILDREN'S DISEASES.

Given at the Hospital for Sick Children by Charles West, M.D., Physician to the Hospital.

Gentlemen,—A very wise and good man, to whom I owe much of whatever I have learned of my profession—Dr. Latham—makes somewhere the remark that he was struck at the outset of his career with how, in a large hospital, knowledge was continually running to waste for want of some one to gather it. He says, too, that this which struck him then, struck him even more forcibly in after years;—the old experience, in

short, "*Ars longa vita brevis*," which is realised more and more as the shadows lengthen and the day goes down.

I feel it specially with reference to this hospital, because here, or in inquiries such as its wards suggest, my time and thoughts and energies have been engaged for the past five and twenty years, and I rejoice to see you here to-day, Gentlemen, because in some of you I trust that I may find fellow-labourers—men already schooled by previous study, and who will be able as well as ready to gather for the common benefit some of that knowledge which will otherwise be but too likely lost.

But I am glad, also, to see others here, who as yet are but imperfectly trained, because, while they have much to learn, they have come here to one of the best places in which to learn it, since disease may here be studied in the simplest forms.

It has been recommended by some most fitted to give advice that the student of Medicine should begin with the diseases of the eye, since through its transparent coats, as through a glass, the various processes of disease and recovery may be seen transacted, and "many of the little wonderful details in the nature of morbid processes may be learned, which, but for the observation of them in the eye, would not have been known at all." The ophthalmic wards of a hospital must, indeed, be revisited at a later period for the sake of the special knowledge to be obtained there; but they may well be visited at first for the elementary teaching which they afford.

Somewhat in the same way you may come at two periods of your career to the study of children's diseases. *First*, to observe disease in its simplest conditions; then *later*, to investigate the peculiarities of symptoms which result from the tender age of your patients, and the modifications of treatment which on that account may be required.

First, I said, to study disease in its simplest form. The chemist who analyses a substance submits to its various processes in order to remove from it all extraneous matters, and then applies to it tests to determine its real nature. This which the chemist does, however, is very difficult indeed in the investigation of disease. Pure pathology is the doctrine of disease unmodified by the intervention of disturbing causes from without or from within. To this in adult age we scarcely ever attain. The body even in apparent health yet tends imperceptibly to decay. We study disease in its influence on parts already damaged. The follies of youth, the vices of maturer age, the anxieties of business, the failure of hope, all leave their impression on the body, diminish its reparative powers, and render the different organs inapt to do their duty, so that almost all disease appears in a complicated, scarcely ever in a simple form.

Care, too, which sits at the bed's head of a grown person, does much to retard recovery and to complicate disease. "Is your mind at ease?" said his physician to poor Goldsmith on his death-bed, observing how his pulse outbeat the frequency for which his bodily ailment would have accounted. In childhood there is little or none of this; no regret for the past; no dread of the future. The present is the world in which little children live; pain past is almost forgotten; and this mental tranquillity contributes in no small degree to their recovery.

But I will no longer occupy you with insisting on things with which a little time spent here will make you quite familiar. I will rather take a hasty survey of some of the cases which are now in the hospital, or which have been here so recently that many of you have had the opportunity of seeing them. I select them very much for the illustration they furnish of the unsolved problems which I want some of you to try to answer.

A little boy, aged 19 months, was admited into the hospital on the fourth day of an attack of pneumonia of both lungs. His respirations were 60; his pulse beat 148 in the minute. There was dulness at the base of both lungs, especially of the right; fine crepitation was heard below both scapulæ. I scarcely need add that the child seemed very ill. He was drowsy, but at the same time restless. He was very hot, and his skin dry. He had some cough, but not very much. A mustard poultice was applied to the back and the chest. A little ammonia was given with small doses of ipecacuanha; beef tea and wine for food.

In the night the distress and restlessness were extreme, until relieved by spontaneous vomiting; but on the afternoon of the fifth day the child was already better; the respiration had fallen in frequency to 44; and there was slightly improved resonance of the chest. Improvement continued. On the ninth day the respiration had fallen to 21, and the pulse to 124; percussion yielded an almost natural sound; and some largish crepitation was the only evidence remaining of the dangerous illness.

Now here the recovery took place speedily and decisively, and in a way in which one could not refer it to the remedies employed. Nor is this a solitary case; it is one of many to which attention has of late years been especially called, which raise the question as to when and how far an expectant treatment may be adopted in inflammation of the lungs. It suggests to you the importance of determining the period of pneumonia at which spontaneous improvement is most likely to occur, the circumstances which in any given case justify you in expecting it, and those which, on the other hand, render its occurrence doubtful. Further, there remains the important question whether, though recovery would take place independent of treatment, it yet occurs sooner, or is more complete if treatment is adopted than if the case is let alone.

A girl 7¼ years old was admitted with the following history: Nine months before, she suffered from severe pain in her limbs, which yet did not constantly keep her in bed; but she was up every morning, and then as afternoon came on grew worse and went to bed. During much of this time her heart beat very much, and at the end of a month, when the pains in her limbs had already ceased, she suffered so much from her heart that she was confined to bed for six weeks. When better she attended for some months as an out-patient, but six months after her illness began her legs swelled, her breath became short, and at length she came for admission here.

The heart's impulse was visible in the fourth, fifth, and sixth interspaces; the apex beat in the sixth interspace, one and a half inch outside the nipple line. The upper dulness limit reach to the third rib, and the inner to a finger's breadth to right of the sternum. The oblique diameter of the heart was five and three-quarter inches, the transverse five, the longitudinal three and three-quarter inches; while, as you can now see for yourselves, there is a very manifest bulging of the whole heart's region. There was a prolonged wheezing systolic murmur heard at the apex, which diminished rapidly in loudness towards the base; the second sound was inaudible at the apex, but clearly heard at the base of the heart.

I am not going to trace this child's history in detail. She got relief from treatment, went out much better in three months, but soon came back in a state of great distress, for now pericarditis had come on. For some time she seemed likely to die, but once more got better, and you see her now eighteen months after the rheumatism in which her sufferings began.

Now, here you have a case of heart disease, with enormous dilatation of the organ, succeeding to a comparatively slight attack of rheumatism. Each year adds to the child's sufferings, from which she will find rest only in an early grave.

Why is this so? Why does even a very small amount of valvular disease tend in some instances to produce a large amount of dilatation?

It is not an invariable occurrence. So little, indeed, is it invariable, that Dr. Latham notices the probable existence of some compensating power in the young heart by which atonement is made for the effects of valvular disease: "a certain *protective* power possibly inherent in the growing heart, whereby it can accommodate its forms and manner of increase to material accidents, and so suppress or counteract their evil tendencies."

But why is this sometimes? Why not always? Why not often? Is this happy issue rarer now than formerly, and if so, can it be that the

change in practice which recent years have brought with them—the abolition of depletion, the disuse of mercury, have rendered the cure of rheumatic affections of the heart less complete than formerly? Or is it only—and this I apprehend to be the case—that our diagnostic skill and pathological knowledge have outstripped by far her therapeutical resources, that we discover the ills which we are impotent to cure?

A strong looking well-made girl, 10 years and 9 months old, began to suffer causelessly from chorea three weeks before admission into the hospital. There was no history of rheumatism in her family, nor had she herself presented any rheumatic symptoms, though there was a weak systolic bruit audible at the apex of her heart, which persisted, but did not increase either in extent or in loudness during the whole of her illness. The choreic movements were at first limited to the left arm, but they increased rapidly in spite of treatment, so that a month after admission the child was compelled to be placed in a bed padded all round, on account of the violence of her movements, while deglutition was very imperfect, and speech almost abolished.

She remained in the hospital for three months; at the end of which time she was almost well, and was sent into the country. She was submitted to very varied treatment, but without benefit, and her eventual improvement was spontaneous. For a time she improved in the country, but at the end of two months returned with a relapse of all her symptoms, though their severity was far less than on the former occasion. In this instance medicine seemed just as unavailing as before. The child began spontaneously to improve at the end of one month, was well at the end of two months, and has, I believe, since continued so, though the time is yet too short to feel sure of the permanence of her recovery.

Here, again, are several questions which await an answer. Why is the first attack of chorea almost always the most severe? Why is there no definite relation between the severity of chorea and the severity of the heart affection, and why is the heart sometimes quite unaffected, even though the chorea is very severe? Lastly, why is the heart affected at all, since the assumption of its rheumatic character, though true to a certain extent, is yet by no means always tenable?

Further, what clear indications can be laid down for the treatment of chorea besides the two furnished by the existence of constipation on the one hand, and anæmia or debility on the other, and the combined use of purgatives and tonics which they suggest?

Zinc and antimony, strychnine and belladonna, shampooing and sulphur baths, have all been used in the treatment of chorea. When is the one right, when the other, or in what combination are they best employed?

In what combinations? for I would not have you fall into the error into which the prevalent folly of homœopathy may imperceptibly lead you of supposing, that in order to act at all each remedy must be employed alone. He is the best physician who knows best not only what remedies to use but in what combinations; as the skilful general trusts not to his infantry alone, nor alone to his cavalry, but gains his victory most surely and most quickly by using different troops in combination; or,

> "As many arrows loosed several ways
> Fly to one mark."

Two more cases, and I have done for to-day. One is in the hospital now, the other recently left.

A boy, 8¼ years old, was always a backward child, and while teething had three attacks of convulsions. Three months since he seemed causelessly languid for a fortnight; and then he was suddenly seized with vomiting. For six weeks together the vomiting returned daily for every other day. It was associated with an increased languor, and, by degrees, with drowsiness, and with pain in the occiput, which, though constant, became sometimes so severe as to make him scream aloud. A month after the commencement of these symptoms he was first observed to squint, and at the end of two months he had a fit which lasted for half-an-hour. In the ensuing month these fits returned six times. The vomiting ceased after the first fit, but the other symptoms continued, and became associated with pain on any movement of the limbs, and three weeks before his admission into the hospital it was first observed that his pupils were dilated, and that he had lost the power of sight.

He was a pale, thin child, with a peculiarly wretched expression of countenance; absolutely blind—his right eye looked straight forwards, his left inwards, and both were in a state of constant motion. He had complete power over his limbs. His headache was not constant? his appetite was good, and he did not vomit during the fortnight that he remained in hospital. Nothing, however, seemed for a moment to amuse or please him, and he was allowed to go home all the more readily that his case was not one which held out much prospect of benefit from treatment.

What was this case? There was no family history of tubercle, nor did the boy present any appearance of it. Still the spmptoms are not those of any acute inflammatory disease, and I should be disposed to imagine that they were due to the gradual development of some tumour (and these tumours are almost always tuberculous), which, arising at the base of the brain, had by degrees increased until by pressure on the optic nerve it

had abolished the power of vision. And here it may remain stationary, though more probably it will continue to grow until it causes death either suddenly by some outpouring of blood from the vessel of the base of the brain, or, more slowly, by the production of inflammation, or by effusion into the ventricles consequent on pressure on the veins of the Galen.

Here is, lastly, another case, somewhat obscure indeed, but yet less so, I take it, than the preceding one :—

A girl, 8½ years old, whose father and two of her brothers had died with symptoms of brain disease, had suffered for a fortnight from troublesome cough, when she seemed unusually heavy, was attacked by violent sickness with headache, and sank speedily into a state of stupor, which continued with intervals, during which her mind wandered, and she rambled in her talk for thirty-six hours. At the end of this time consciousness returned, and the child sat up in the bed, and showed some gleams of cheerfulness, but the pulse, which had been irregular during the state of stupor, still continued so, and the head was held somewhat retracted. Pain in the head and some retraction of it continued, though the child was well enough to be up, and moved about the ward.

She left by her mother's wish in a fortnight, and at the end of another fortnight she returned, much emaciated, complaining of pain which was now referred more to the ears than to the head, of pain also in the neck and in the right shoulder, towards which her head was inclined.

On this occasion she remained in the hospital four weeks. During this time she grew thinner and thinner, her skin became harsh, her abdomen retracted and tender to the touch, and her head was still drawn back as before. Auscultation now found the breathing weak everywhere, but especially so at the apex of the left lung, and percussion there was obviously dull. There was no vomiting however. The bowels once constipated, had now became regular, the complaints of headache were less constant, and the pulse had lost its irregularity. General tuberculosis was advancing; the mischief in the brain, I suppose, was stationary.

What is the import of this sudden development of the signs of cerebral disease, and what of their spontaneous passing into abeyance? If we could learn to answer these inquiries aright we might possibly do something to arrest disease, even though we were unable to effect its cure. Here, then, is another problem which I leave for your consideration.

But, say you, you came here to be told what I do know, and I have talked to you almost entirely of what I do not know, and that is not the

object of a lecture, the purpose of which should be to impart positive knowledge.

Gentlemen, it is not quite so. The acquisition of knowledge implies an active, not a passive state, and to this it was my object to excite you. It is when you seek as for riches, and search as for hid treasure, that you gain it; so at least said the man wiser than other men, and who himself wrote of all things, from "the cedar of Lebanon to the hyssop that groweth on the wall."

You have come to the study of Medicine furnished far differently from those who, like myself, entered on it more than thirty years ago. It is but right that you should turn these advantages to good use. We are, indeed, as has been well said, like people standing together on a hill, which I have climbed before you, and I, to whom the landscape is in some measure familiar, may say to you, look here and look there, and you will see this and that. But further, I say to you, the objects there are indistinct to me; but you have perspective glasses of higher power than mine; turn them in this direction or in that, and you may with patience discern clearly what I can see but partially, or, with my imperfect instrument, perhaps cannot see at all.

If you visit the wards of this hospital I may, too, do some of you this service, that I may point out to you what is worth the seeing, and may help to guard you from the dangers of the young student,—that of playing with the instrument itself, vain perhaps, of his dexterity in its use, or of turning it thoughtlessly on trifling things, not worth the investigating.

You must not forget that it is your duty, as it is mine, to map out the country for the use of yourselves and of future travellers, to seize its great features, which may serve as landmarks, and not to waste your time on some quaint tree or curious rock which lies quite out of the path along which you have no journey.

"Nisi utile esi quod agimus vana est glora nostra" should be your motto, though in a different and a lower sense, indeed, from that in which it was employed by the inspired penman some eighteen hundred years ago.

Canada Medical Journal.

MONTREAL, NOVEMBER, 1865.

AN APPEAL.

The present number of the *Canada Medical Journal* has been delayed from several causes; but chief of all, the want of original matter to lay before our readers.

When we assumed the management of this journal we determined to exclude from its pages everything of a personal nature, which is always uninteresting to the majority of readers, and is calculated to injure the character of our profession. In doing this we have followed the course adopted by those perodicals published in the mother country, many of which are devoted exclusively to the advancement of the science and art of medicine and surgery.

We may perhaps have given offence, as many letters have been received from various parts of the province, complaining of unprofessional conduct, but of which we have taken no notice. We are desirous that this journal should be a means of communication between the members of our profession, and the repository of valuable matter. As an evidence of the worth and practical bearing of many of the papers which have appeared in our Original Department, we may state they have been deemed of sufficient interest to be copied into the pages of most of the leading periodicals at home and in the neighbouring republic.

To our friends and supporters we must again appeal for aid, literary aid, for without it the printer cannot employ his type. Surely there should be sufficient material in Canada to enable us to keep our journal going. If the profession here are so sparing of their views, so reticent, fearful of criticism, or some other imaginary bug-bear, we will conclude it is an evidence that we have become an unwelcome guest, and therefore will begin to consider the necessity of relinquishing our task. But we cannot believe that thus early in our career we are to to be neglected, unsupplied with literary food. Brethern, we languish, we starve, with all the keen appetite of continued abstinence and unimpaired digestion. We call upon you to sustain us with contributions, without which the character of our journal must depreciate; in fact we will, if still neglected, cease to be.

THE PRESENT SESSION.

By the time our November number reaches our readers, the session of all the Medical schools and colleges in Canada will have commenced, and students will be fairly entering upon their winter's work. To them we would commend the following words, uttered by George Pollock, F.R.C.S., England, at the introductory lecture of the St. George's Hospital Medical School, for the session 1865, '6. "But of all points, let me impress you that *this* is the most important—*the study of disease at the bedside*. If you shun or neglect the wards; if you are indifferent accurately to watch the phases of disease by the bedside; if you neglect to see to cases, to record their symptoms and treatment, to follow them in their convalescence, or track them to the *post mortem* room, and there enter into your case book the dealings with death; you can never attain to a position in your profession, to command the confidence of the public, to gain the respect of your professional brethren, or place yourself in a position of authority. Your range of observation must be the wards, where disease may be studied; and the chamber, where after death dissection discloses its ravages." These words of advice given to the students of St. George's Hospital, London, are applicable to students all the world over. Too little attention is, beyond a doubt, paid by the majority of students to the cases which fill the wards of an hospital, and how many, day after day, but too literally "walk the wards," the practical lessons drawn by the clinical teacher barely entering their brain. Upon every student who reads those lines, we would impress with all the power we can employ—the vast, the inestimable importance of paying the closest possible attention to clinical teaching, and, as far as possible, taking brief notes of cases. This gives the student a habit of being methodical, and will prove of great use in his professional career. Observation is a faculty, without the exercise of which the medical man will find his diagnosis in hundreds of cases an up hill work. By closely following the hospital wards, the student has this faculty constantly brought into play—it is expanded, sharpened. With half the trouble, a keen observer is able to bring to the surface signs which may have escaped the attention of others, with whom the faculty has lain dormant. Various reasons may have induced the student of medicine to enter a friend's study—principal among which is, we hope, "love of his future profession." Without this impetus, much he will find dull and dreary, and though at the end of his college term, he may find himself with his diploma in his pocket—yet the practice of his profession will not have any charms for him. At best it has many rugged paths, which, to such

an one, will not fail to be densely filled with thistles. But to the true devoted lover of medical science, the study of it is a privilege, and he counts trials as but naught in the prosecution of his glorious purpose. Disappointments may befall him, difficulties may rise up before him, but in proportion as all these appear, his determination to succeed only becomes the stronger, and in the end they look as if indeed they had been blessings in disguise. The prizes open to our profession are not many, but everyone has before him an opportunity to place himself in a respectable position in life. Our profession is a progressive one. As a science it is still inexact, and as an art it is still imperfect; and although the past century has seen wonderful progress made towards bringing it to perfection, much still remains unaccomplished. Every student, every medical man has an opportunity of giving his quota towards the common cause. Once more we would impress upon students the great importance of the profession they have chosen, urge their especial attention to clinical teaching, and wish them all possible success in the prosecution of their labours.

HOMŒOPATHIC MEDICINES.

Dr. Taylor, the celebrated chemist, in his testimony before the Select Committee of Parliament on Chemists' and Druggists' bills, in reply to questions in relation to the practice of the homœopaths, said:—They say that aconite is in the globules, but I have never found any trace of it; I have been told our chemistry is not refined enough to trace it; we go to the hundred-thousandth, they put in the millionth. The globules consist of sugar and starch. I believe the homœopaths use tincture of aconite. In one instance I detected a strong dose of morphia in medicine prescribed by a homœopathic practitioner. Six powders were made up—three contained sugar of milk, and three contained morphia and calomel. In examining the homœopathic powders, I found in some of them upward of a grain of morphia. They do not always, as they profess, use homœopathic doses. The powders were numbered to be taken on certain nights, and in every other powder there was sugar of milk, and in every other powder morphia and calomel.

Miss Garrett has successfully passed her examination at the Apothecaries Hall, London. The *Medical Times and Gazette* hopes she may long enjoy the pre-eminence of being the sole female representative of English medicine. — The Sir Ashley Cooper Prize of £300, for 1865, is for the best essay on "Pyemia." — There were 2238 persons killed by lightning in France between the years 1835 and 1863.

CANADA

MEDICAL JOURNAL.

ORIGINAL COMMUNICATIONS.

Case of Femoral Aneurism, treated by Combined Proximal and Distal Compression.—Recovery. By JOHN HENRY HUNT, L.R.C.S.I., Assistant-Surgeon 1st Battalion P.C.O. Rifle Brigade.

The subject of this notice, Private George Ansell, æt. thirty, an unhealthy, strumous looking rifleman, of intemperate habits, a moulder by trade, but recently employed as groom; while hurrying up the glacis to the citadel, felt a sharp sudden pain in the right groin, which extended downward to the calf of the leg.

This, at the time caused him little inconvenience, but, about a week afterwards, he was surprised, on putting his hand into his trowsers pocket, to find a swelling in his right groin, which he believed to be a sympathetic bubo. The next morning, the 9th July, 1865, he presented himself at the Regimental Hospital, when, on examination, the true nature of the case was painfully evident.

A large pulsating tumour, the size of a small orange, was found occupying the upper part of Scarpa's triangle, and almost impinging on Poupart's ligament; this tumour throbbed so violently, that the pulsations, which were synchronous with the heart's action were visible across the ward, a distance of twenty feet. Pressure made over the "external iliac artery" controlled, with difficulty, the circulation in the tumour.

Owing to the proximity of the tumour to Poupart's ligament, compression could not be made, on the common femoral artery. The circulation was, therefore, controlled by means of a padded door key, compressing the external iliac artery. This was attended with no little difficulty.

He was ordered to bed, the thigh was directed to be kept flexed on the pelvis, and the strictest quiet enjoined. He was also ordered (the "varied diet" of military hospitals) 15 oz. meat, 16 oz. potatoes, 18 oz.

bread, and 4 oz. vegetables, with tea, sugar, and butter, and in addition two bottles of porter daily.

On the 11th July, 1865, applied Savigny's Tourniquet over the external iliac artery, a suitable instrument in those cases, where pressure can be made over the common femoral artery, but in this case totally inadequate for the purposes required, as the unremitting attention of an orderly was indispensable to keep the compressor properly adjusted.

Up to the 17th July, pressure was assiduously continued, the total absence of pain, and constitutional disturbance indicating the eventual success of the case. On that day sloughing of the integuments from the protracted pressure, compelled me to discontinue the use of the compressor, and it was with considerable difficulty that the circulation could be controlled by digital compression. Little success, except slight hardness of the walls of the sac, resulted from the treatment up to this time, and deligation of the external iliac artery was contemplated.

Previous to resorting to such a severe operation, I determined to try the effect of pressure on the distal side of the aneurismal tumour, at the same time moderating, but not quite arresting the arterial current at the proximal side. I also ordered the following draught to be administered three times daily :

℞ Tinct. Ferri sesquichloridi M. xxx.
Tinct. Digitalis M. xv.
Aqua ℥ j Misce.

Ft. Haustus.

Very little change took place in the condition of the tumour until the 21st July, when, on visiting him at 6 p.m., I found that all pulsation had ceased. On visiting him the following morning I found the tumour again pulsating; this was due, I believe, to a negligent disregard of my injunctions by the patient and his immediate attendant.

Determined that neglect should not again interfere with the success of the case, I ordered the same treatment to be persisted in, at the same time reiterating my injunctions as to the necessity of absolute quiet on the part of the patient, injunctions, which, as the sequel will show, were not unnecessary.

Visiting him unexpectedly after midnight of the 24th, I found the cause of the recurrence of the pulsation; the attendant was fast asleep, and the patient tossing about in all the inelegant *abandon* of a restless slumber, the compressor had slipped down the thigh, while the tumour was pulsating uncontrolled.

Cessante causâ cessat effectur, and on the 28th July, the treatment having been still persisted in, I had the satisfaction to find that all pul-

sation had ceased, and that the bruit was inaudible, the walls of the tumour having become hard and dense.

The subsequent progress of the case was most satisfactory. There was no recurrence of the pulsation in the tumour, when he embarked for the invalid dépôt on board H. M. S. Himalaya last September. The walls of the sac had become hard and dense, the tumour itself on measurement showed a considerable decrease in size, and he suffered no inconvenience except a slight numbness of the right leg.

It is rarely in practice that aneurism of the femoral artery is found occupying so high a position, and it is in aneurisms so situated as the one here described that the superiority of the treatment by distal pressure, compared with that by proximal pressure, is so apparent.

The difficulty experienced by most surgeons of properly applying a compressor over the artery, above Poupart's ligament so as to efficiently control the circulation without manual assistance, and the certain supervention of sloughing from the protracted pressure, contrasts unfavourably with the facility with which a tourniquet can be applied at the distal side of the tumour either at the apex of Scarpa's triangle or the upper part of Hunter's canal; in the latter case sloughing from pressure cannot occur except through neglect of ordinary precautions, while in the former sloughing is unavoidable if the control of the circulation is to be efficiently maintained.

I believe that an important feature in the treatment of aneurism by compression, is the combination of the two modes of treatment as adopted in the case of the subject of this notice by the writer. As it is evident that there is less chance of the displacement or disintegration of the fibrous laminæ lining the sac if circulation is judiciously controlled at the proximal side of the aneurismal tumor.

The Citadel, Quebec, 26th December, 1865.

Successful Tracheotomy at the Marine Hospital, Quebec. By Dr. Rowand. Reported by Dr. Anderson.

On the 5th November, 1864, Dr. Rowand, to whom I am indebted for opportunities of seeing many interesting cases and operations at the Marine Hospital, invited me to accompany him there to see a case of œdema glottidis, in which he thought tracheotomy was immediately necessary.

On arrival at the hospital, we found the doctor's colleagues in attendance, in accordance with the rules of the institution, which require that

a consultation must be held before the performance of any important operation.

The patient, Andrew Anderson, a Norwegian sailor, had been admitted on the 5th October, in typhoid fever of a very severe type, from which he had recovered, and had begun to move about the wards, and, it was supposed that from imprudently exposing himself to drafts, laryngitis had supervened, terminating in œdema. Croton oil liniment had been applied externally, and he had been put under mercury.

On examination, his countenance exhibited great anxiety, and was bathed in perspiration; respiration was most laboured and distressing, but Dr. Roy, the house surgeon, stated that it was not so much so as it had been. Dr. Landry expressed the opinion of his colleagues, that the mercury was evidently beginning to take effect, and, as the disease appeared to have extended to the bronchial tubes, that it would be well to defer the operation, in the hope that it might be unnecessary. It would not have been proper for me to have expressed my opinion, though, I must admit that, educated as I had been in the views so strongly expressed by the late Mr. Liston, on the impropriety of operating, when the disease had extended to the cavity of the chest, I concurred in the views of Dr. Landry.

It was agreed that the operation should not be then proceeded with, but that, in the event of emergency, Dr. Rowand should be immediately sent for. On returning home with Dr. Rowand, I remarked to him that I saw that he did not approve of the decision, and he admitted that such was the case.

Next forenoon Dr. Rowand notified me that he was about to proceed to the hospital to operate, and invited me to accompany him. On our arrival we found a frightful change had taken place; the man's countenance was livid; respiration was performed with the greatest difficulty; the pulse so weak and rapid as to be with difficulty counted; the hands were livid and cold, and on his brow there was the cold sweat of death; in short, he was almost moribund. Dr. Jackson was present, and, concurring in the propriety of even now operating, Dr. Rowand at once made the necessary arrangements, when, unexpectedly, the patient expressed opposition. An interpreter, however, being at hand, the nature of the operation was explained to him in his native language, when he signified his acquiescence.

He was placed in the proper position, his shoulders being supported by Dr. Roy. I held his right hand, having my fingers on the pulse. The first incisions were made, and Dr. Rowand had just divided the first ring, when Dr. Roy exclaimed, "He is dead." At the same

instant the pulse stopped. Dr. Rowand requested cold water to be immediately dashed on his face; and, rapidly concluding the operation, commenced artificial respiration, by repeated forcible compression of the lower ribs, and in a few minutes a gush of air passed out at the tube; respiration was fully re-established; he opened his eyes, and a happy smile instantly passed over his face, as if he felt assured that he was saved. In a few minutes he was lying in bed, breathing without difficulty, and, before we left the hospital, warmth was restored to the surface, and he appeared disposed to sleep. At midnight, the tube, from not fitting properly, got displaced, and hemorrhage from the wound took place to such an extent as to threaten suffocation. Dr. Rowand was present, and, by good fortune, succeeded in getting him to cough the clots out through the tube, and he was once more saved.

Under proper treatment he continued to improve, but every attempt to remove the tube was immediately attended with suffocation. After some time, severe diarrhœa set in, which was with difficulty subdued, but by persistence in the use of cod liver oil, &c., &c., this was at length overcome, and he gained strength and flesh, becoming positively fat.

In the ordinary routine of the hospital, he was transferred to Dr. Jackson, who followed up the treatment, and proposed to try dilatation of the larynx, and the application of nitrate of silver, but as he suffered no inconvenience as long as he was permitted to breathe through the tube, and an opportunity occurring for his return to his native country, his wish was complied with, and he was allowed to depart on the 9th June last.

This case presents several features of more than ordinary interest, and the question arises, What was the nature of the collapse which took place during the operation—was it syncope or asphyxia? I have come to the conclusion that it was asphyxia, which of necessity involved death, had not the operation been rapidly concluded. I believe that resuscitation was solely owing to the judicious and immediate adoption of artificial respiration, and this belief gave rise in my mind, and, at the same time, in that of Dr. Rowand, to the conviction that tracheotomy would be the most efficient treatment in asphyxia from chloroform. This opinion has been strengthened by reflection, and by the perusal of the following passage from fol. 396, "Military Medical and Surgical Essays," by W. J. Hammond, late Surgeon-General U. S. Army:—"We may presume that anæsthetic vapours are not poisonous in themselves, but when ignorantly and carelessly used, they arrest the circulation in the capillaries of the lungs, as nitrogen or hydrogen would do, by exclusion of the necessary oxygen. Hence, in cases of asphyxia from their use, when the natural

process of respiration is interrupted, we endeavour to restore it by artificial means. We open the windows to procure fresh air, dash cold water on the face to excite convulsive respiratory movements, turn the patient on his side to lessen the gravitative tendency of the vapour, and make artificial respiration by compressing the ribs after the manner of Dr. Marshall Hall. And when the vapour is sufficiently displaced from the lungs, by admixture with atmospheric air, circulation and respiration will be restored. For these reasons it was that Mr. McLeod in the Crimea always preferred to use chloroform in the open air."

I may remark that I believe that chloroform has not only a direct action on the capillaries of the lungs here described, but that by the production of spasm of the glottis, mechanical occlusion of the main air passage occurs, and the patient dies literally for want of breath. I believe that this spasm may sometimes be overcome by immediate extrusion of the tongue, whereby the larynx is opened, and air permitted to pass on producing artificial respiration; but I have a strong impression that this is not always accomplished, but in certain cases the glottis remains closed, and therefore Marshall Hall's method is of no avail. I also believe that in cases similar to the one now under notice, the closing of the glottis does not altogether arise from infiltrations or œdema, but from paralysis of the nerves of the larynx, produced, as we sometimes see it, in rheumatic affections of the extremities, attended with infiltration.

I am aware that tracheotomy has been had recourse to in spasm of the glottis arising from hydrophobia, epilepsy, and drowning, though its propriety has been questioned. Should it be my fortune to meet with a case of asphyxia from either of these causes, or from chloroform, I should not hesitate to adopt a remedy which is attended with little risk, and which, for the reasons I have mentioned, I feel confident is the only one likely to prove successful under certain conditions.

I ought not to omit to mention that this case has given me a lesson which I am not likely to forget — one that will make me more than ever disposed to give greater weight to the deliberate conviction of the medical man who has watched the case throughout. I believe that had Dr. Rowand's opinion been acted on on the first day, much subsequent suffering and danger might have been avoided.

25 Ste. Geneviève Street, Quebec, 14th Dec., 1865.

LONDON CORRESPONDENCE.

In once more assuming the post of special correspondent to a newly established Medical Journal, in Montreal—the chief centre of general as

well as medical science,—I sincerely hope the profession will do their best to support the Journal, and render it a permanent record of medicine and surgery in the great province of Canada. Old established journals in the mother country become, in time, a handsome property, and enrich all who are in any way connected with them; and why should it not be so in Canada? The paying feature of a Journal is not the list of subscribers alone, no matter how extensive; it is in reality the number of advertisements, which usually bring in sufficient ready money (provided they are for cash, as is the custom here) to pay all the current expenses. They should be solicited from chemists and druggists, inventors, publishers of works, and others. What would the *Lancet* be without its *five and twenty pages* of advertisements weekly; or the *Athenæum* or *Medical Times?* I promise your readers, from time to time, a communication of what is going on here; and as my letters will be oftentimes written under pressure, I hope they will kindly excuse my errors of omission or commission, for they are unavoidable, from one's numerous engagements, professional and literary.

At this present moment there are four things exciting much attention and speculation. The first of these is a monstrosity of the vegetable kingdom; nothing less than a giant among cucumbers, recently seen at one of the newspaper offices. It measured *four feet* in length, was large in proportion, and grown somewhere near London. Favoured as Canada is in the summer with heat and other influences, perhaps some enthusiast might be disposed to grow a large cucumber, and immortalize himself. It appears, too, that the monster grew from ordinary seed, thus differing from the Chinese Giant Chang, whose father and grandfather were even bigger than himself, and therefore it is not surprising he should have taken after his progenitors.

There is a Portuguese youth to be seen at one of the hospitals, who has a supernumerary leg, springing in some way from his buttock, and who possesses, moreover, a supernumerary penis and testicle; that is to say, he has a double penis, two distinct organs, either of which can perform its proper function. As an account of this monstrosity, with an engraving, appeared in the *Lancet* for July last, I need not enter into any further description, beyond saying that he confines himself to the use of one penis for emptying the bladder, &c. Singularly enough, there is a married woman in St. Bartholomew's hospital, at the present time, who would be a suitable companion for the Portuguese youth, for she possesses two distinct and well formed vaginæ, either of which is fit for use, but she states she always has made use of but one, and the other therefore is like that of a virgin. Nature loves to hunt in couples, and

here certainly is an apt illustration. Both have been examined by various persons interested in these physiological freaks of development, but that a similar one should present itself in the two sexes, is a very singular coincidence. No doubt many curious instances of deviation from normal laws exist, which are probably never known, and hence when any case such as those referred to presents itself, our surprise is naturally excited.

The fourth topic, and an all-absorbing one for some time, was the expected advent of cholera; but I am happy to say that, with the exception of a few cases at Southampton, it has not appeared in other places. Yet I am strongly persuaded that it is merely staved off for the winter, and will return next summer, possibly with much virulence. Time, however, can only tell. Certainly the change in the weather has caused its total disappearance from Southampton, and a diminution of cases of choleraic diarrhœa in the metropolis.

We have had a nine days' wonder in the occurrence of undoubted yellow fever in one of our western sea-ports, through the agency of an infected ship. Some of the black-vomit was shown at the Pathological Society the other night, by Dr. Buchanan, one of the Government Health Officers, who had been requested to report upon the subject. People naturally became very nervous at the occurrence of such a disease as yellow fever in England, and this, associated with cholera raging at Paris and Southampton, and the existence of the cattle plague, was enough to make us think seriously. With regard to the last, there was indeed good ground for anxiety and alarm, but it now turns out that the total number of beasts destroyed does not exceed a fortnight's consumption in the Metropolis alone, and that its extent has been over-estimated. Fortunately it has been in a great measure stayed, and the fearfully high price of meat will now become lowered. I am not necessarily an alarmist, but I have strong fears that these various evils are but the forerunners of what we are to expect next spring.

We have had a fine, beautiful, continually warm summer, not unlike those of Canada; it will be followed by a bitterly cold winter, which, however, agrees better with the human constitution than the irregular damp and cold weather, of which we have had an abundance for some years past, excepting last winter.

In my next letter I hope to say something about the late meeting of the British Association for the Advancement of Science, held at Birmingham.

REVIEWS AND NOTICES OF BOOKS.

The Renewal of Life, Lectures chiefly Clinical. By Thomas King Chambers, M.D., Honorary Physician to H. R. H. the Prince of Wales; Physician to St. Mary's and the Lock Hospitals. From the third London Edition. 8vo. pp. 638. Philadelphia: Lindsay and Blakiston; Montreal: Dawson Brothers.

In the last English edition of this work the author was induced to drop the first portion of the title ("The Renewal of Life") as he considered it open to misconception; also, inasmuch as severe and unnecessary strictures were made by several reviewers, as to the propriety of adopting such a title. In this, the American reprint of the last English edition, the publishers have retained the above, that the work itself should be at once recognized, its great popularity and extensive sale being under the original title. This edition has been much enlarged—twenty-three new lectures, not before published, are added: three delivered before the College of Physicians, and the others before the class at St. Mary's Hospital.

We remember the pleasure we experienced some years ago in the perusal of Dr. Chambers' Lectures on Corpulence, published in the London *Lancet*. At the time we were fully impressed with the original views of our author, and the correct deductions drawn therefrom. The work before us is of the highest merit, written in a clear masterly style, devoid of those technicalities which abound in works on the science and art of medicine, and which serve to mystify the reader, and render obscure our art. It consists of fifty-two chapters or lectures; no set rule is adopted, no system such as following out the affections of any of the viscera in order as they are met with in works on practice of physic. They are simply what they profess to be, Lectures Clinical, delivered from cases observed at the bed-side, therefore more valuable as enunciating the views and experience of a practical mind, aided by actual observation. The first few lectures are severally on "Death and Life," "Disease and Cure," "Formation of Mucus and Pus"—to this latter are devoted three lectures.

These form an introduction to the more practical department of the course, and are of deep interest; they are replete with facts having a practical bearing, and will well repay perusal. Here will be discovered what we are, and in a clear and masterly style, yet simple! Plain to the most obtuse, are laid bare those wonderful changes which are constantly

occurring in our bodies, as in all living things by which we are surrounded, and of which man in his finite judgment has but slight conception:

"A conjectural theory has been hazarded that Life mysteriously endows living matter with a defensive virtue, which enables it to resist the chemical and other powers acting regularly on inorganic and dead matter. The most notable instance cited is the stomach, which digesting everything else is not itself digested. This consumer of flesh is itself made of flesh, yet is not consumed. An answer seems given to the witty philosopher, who on hearing an alchemist boast his discovery of an universal solvent, inquired, "In what vessel do you keep it?" The stomach says (it has been in the habit of saying wise things from the time of Menenius Agrippa), "in a vessel like me, which is destroyed indeed continuously, but is continuously rebuilt." Recent researches show that living matter, such as parts of living animals swallowed for instance, is dissolved by the gastric juice, and moreover that its own epithelial coat is destroyed, but is immediately replaced by a new one. By this activity of growth (the idea of the impudent members calling the belly lazy!), and by a constantly flowing supply of alkaline blood to neutralize any of the acid secretion which might penetrate too deep, it retains the same shape for threescore years and ten. But it has no privileged immunity against the solvent it makes.

"It is, then, the Form which constitutes the Self; and it is not the changing, decaying matter which 'was mine, is his, and may be slave to thousands.' The organic materials are the property of the form only so long as it retains them, and no longer—they are a floating capital. Over the innate essential nature of the material it has no control. Life cannot make the brute materials which it uses, live longer than that which it leaves unused, but it has the power of making them anew, and building them up into a certain shape for the time they are made to last. In short, Life rests on the metamorphosis or Renewal of the body; as this renewal is more thorough, the individual is more perfect, and fulfils better and more completely the duties of its position. If it stops altogether, the body is no longer living. If it partially stops, the order of normal phenomena is disarranged, and ease is expelled—there is a state which we call '*dis*-order' or '*dis*-ease.'

"To speak, therefore, of 'a superabundance of life,' or of an 'excess of vital action,' is a contradiction in terms. There cannot be too active a metamorphosis of the tissues, for the fresher their organic constituents, the more serviceable they are, and the longer duration they have before them. There cannot be too close an adherence to that typical form which

it is the business of metamorphosis to keep up, any more than there can be too exact an obedience to law and order.

"The most active metamorphosis of the body possible, the highest possible development of life in every part is HEALTH.

"The complete cessation of metamorphosis is DEATH.

"The partial cessation, or arrest, is DISEASE.

"In death the flesh goes on being decomposed as during life; but not being renewed, the form is lost entirely. In disease, decomposition goes on, but renewal flags, and the decomposing tissues are not sufficiently pushed out by new-formed substance. They are retained as part of the imperfect body—a sort of "death in life"—and are rightly termed by the pathologist "degenerate." They are generated, but not *re*-generated; they are generated in an inferior mould of form.

"Take as an example what happens sometimes to voluntary contractile fibre. We all know that if an animal's limbs are duly employed, the muscles keep up their shape and their vigorous power of contraction; their tissue is of a rich bright-red colour when the animal is fully grown, and is firm and elastic. Examine it under a microscope, and you will find it made up of even parallel fibres, each fibre seeming to be engraved over with delicate equidistant cross-markings, like a measuring-tape very minutely divided. The more the muscle has been used in a well-nourished frame, the more closely it conforms to the typical specimen of the physiologist:—

> "'Use, use is life; and he most truly lives
> Who uses best.'

"But suppose this muscular fibre has been unworked—suppose it is in the biceps of an Indian fakeer, who has fastened his arm upright till it has become motionless, or in the gluteus of a soldier's amputated leg, or the calf of a Chinese belle, or in a paralyzed limb—then the flesh is different in aspect; it is flabby and inelastic, of a pale-yellowish hue, and makes greasy streaks on the knife that cuts it. Sometimes even all traces of fibres have disappeared, and it is converted into an unhealthy fat. Sometimes you may trace fibres under the microscope, but their outline is bulging and irregular, the cross-markings are wanted, and you see instead dark, refracting globules of oily matter in them. In short, the muscle is degenerating into fat, retaining in a great measure its shape, but losing its substance. Such is, by God's law, the penalty of not using His gifts for four or five months."

There are four lectures on Fever. The author assumes the term typh-fever as indicative of any low continued fever. He insists on the great benefit of watching, nursing, and giving nourishment. His sys-

tem of treatment is simple and plain: a well ventilated apartment, tepid sponging, a regular and systematic supply of food, given in small quantities, and repeated every two hours night and day, with an alternate dose of hydrochloric acid, which, given with sugar, affords a grateful, pleasant drink, and at the same time supplies a want which exists in the system:

"You have been taught in the systematic course on medical pathology, that ammonia, which is always being formed and given off from the animal body, is found much more abundant in certain conditions than in others, and that these conditions are those in which nutritive metamorphosis or growth was deficient as compared with destructive metamorphosis, or those in which there is retention in the blood of the products of that destructive metamorphosis. Thus, more ammonia is found in the breath after toil than after rest; more than usual in those who hurt their digestion by smoking tobacco; a great deal in uræmia, where the urea cannot escape by the kidneys; but above all in typh-fever is this exhalation of decay noticeable, as you will find in Dr. Richardson's valuable work on the coagulation of the blood,* where the phrase 'super-alkalinity of the blood' is applied to this condition. Dr. Richardson goes so far as to attribute to this super-alkalinity the special typhoid symptoms, and to suggest that the absorption of ammonia in excess may intensify fever in those who contract it from exposure to decaying organic matter, or human exhalations. He supports his hypothesis on the experiment of inducing the symptoms, or something resembling them, by the injection of ammonia into the veins of an animal. The word 'super-alkalinity' is expressive, and quite unobjectionable, so long as it is understood that the superabundance is not absolute but comparative. For it is not shown that there is more alkali in the body than there is acid to neutralize. 'Sub-acidity' would be a synonymous term, and would be more suggestive of the means we have at our disposal for remedying the defect.

"Very difficult indeed would it be for the eliminator to get this alkali out, but it is easy for the restorist to get acid in. The acid I have always given is hydrochloric."

We give below the results of Dr. Chambers' treatment, which are very flattering. In the first table will be found those treated on general principles during the first six years from 1851 to 1857; the second table contains those treated by diet and hydrochloric acid, in the six subsequent years.

* Richardson on the "Cause of the Coagulation of the Blood," Appendix I. Edit. 1858.)

"Each series is very nearly continuous; all the first-named 109 (with five purely accidental exceptions*), occurred in the six years before September, 1857, and all the latter 121 in the six years since. No fallacy can, therefore, arise from a selection for special treatment having been made intentionally or unintentionally.

"They are spread over a considerable number of years; thus both sets include sporadic cases, as well as the produce of epedemics.

"The only opening for error that I can discern is the bare possibility of a change of type in fevers having taken place at the very time when I changed the treatment, and of its having lasted for six years—possibilities which the records of other metropolitan hospitals during the same period reduce to nothing.

"That the severity of the disease in the two classes differed but little may be shown by the near equality of the periods of convalescence. The mean time of stay in the hospital of the sick who recovered was, in the first series, 29·2 days; in the second, 26·7 days; being a difference of but 2½ days. The ages, also, of the two series differed but little, the mean age of each being between 22 and 23 years.

These averages are cited merely to show the general similarity of the two series, and not to demonstrate any pathological fact.

Of the first series (viz., those treated on general principles),

9	are entered as	Typhus, and of these there died	4
44	"	Typhoid " "	16
56	"	Of doubtful or unrecorded type	3
Total 109		Total	23

Of the second series:

25	are entered as	Typhus, and of these there died	0
52	"	Typhoid " "	2
44	"	Of doubtful or unrecorded type	2
Total 121		Total	4

"For purposes of comparison in a therapeutical inquiry, it will probably be considered right to exclude from the first table two deaths, and from the second table one death, which occurred within two days of admission;

* "Three of these exceptions were treated on general principles by a colleague taking my duty during my absence, and unaware of the experiment I was trying; in one case I made a wrong diagnosis, having mistaken typh-fever for acute hydrocephalus, and treated it with iodide of potassium till too late; of the fifth I have no record, the patient having died within two days, and the clerk's notes being imperfect, except to the fact of its being a case of fever.

for the exhaustion caused by the journey to the hospital in severe fevers allows but little scope for judging of the action of treatment during that period. This leaves the average mortality under general treatment 21 in 107 = 19½ per cent., or nearly 1 in 5;* under the second method of treatment, by continuous nutriment and hydrochloric acid, 3 in 121 = 2½ per cent., or only 1 in 40.

"I cannot, therefore, avoid the conclusion that the means employed in the cases on the second list are very efficient in preserving life; and that out of every 100 persons attacked by continued fever, from 16 to 17 more may be saved thus than by treating them on general principles."

We have given considerable space to the consideration of this all-absorbing subject, and therefore cannot extend our notice further than by recommending Dr. Chambers' book freely and with confidence to our professional brethren, as the work of a great mind, practical in its bearing, and simple to the understanding of all.

Materia Medica for the use of Students. By John B. Biddle, M.D., Professor of Materia Medica in the Jefferson Medical College. Philadelphia: Lindsay & Blakiston. Montreal: Dawson Brothers.

This work is written in a peculiarly plain, and practical manner, so that its contents may be easily mastered by a junior student. Brevity seems to have been an axiom of our author, for throughout his volume he describes everything in the fewest possible words. This we would rather commend, than condemn, for as a rule authors err the other way. But we cannot help thinking there are some articles of the Materia Medica so important that a little more space might have been devoted to their examination. We mention as such, opium, belladonna, chloroform. Dr. Biddle divides the articles of the Materia Medica according to their effect upon the system, such as Tonics, Narcotics, Anti-spasmodics, &c. Altogether we consider the volume a very valuable one, and although we could not advise a student to make it his text book in preference to such works as Pareira, Christison, Wood and Bache, yet we feel that it will be of great use as a book of reference to him during his close attendance upon lectures, or to a practitioner closely following the general practice of his profession. The work has many illustrations, and is got up in the usual substantial style of all the works issued by Lindsay & Blakiston.

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* This mortality is higher than is usual at special fever hospitals, being about the same as at the other general hospitals in London.

PERISCOPIC DEPARTMENT.

Medicine.

ON THE FUNCTIONS OF THE CEREBELLUM.

By Dr. Dickinson.

This paper was founded partly upon experiments made on a great variety of animals, chiefly of the lower order, and partly upon observations on human pathology. There were tables before the meeting, which gave the details both of the experiments and the cases. In the experimental part of the inquiry two classes of observations were made. The first consisted in a comparison between two similar animals, in one of which the cerebrum and cerebellum had been removed, in the other the cerebrum alone—so that the only difference between them was in the possession of the cerebellum. The powers which one animal had more than the other were believed to represent the functions of the organ. The general results were as follow: 1. The addition of the cerebellum to the medulla oblongata gives an increase of voluntary motive power in the four limbs—to the posterior in a greater degree than to the anterior.

The power thus obtained is distributed in such a way as to produce even and balanced movements, and often appears to be exercised in a continuous and automatic manner.

2. The removal of the cerebellum has an effect upon the muscles of the limbs, which increases in proportion as the organ increases in size. It consists in a diminution of voluntary power and of muscular adjustment. When an inequality of effect can be noticed the loss is greater in the posterior limbs. There is a loss of habitual activity. From the effect of lateral injuries it must be assumed that each lateral half of the organ has an influence on both sides of the body, but to a greater extent upon that opposite to itself. 3. The removal of the cerebellum has no effect upon superficial sensation, on any special sense, on the action of the involuntarily muscles, nor on reflex movements. 4. In the human being it appears there is no constant effect from loss or alteration of the cerebellum, but failure of voluntary muscular power. Disease, or deficiency of the whole organ, invariably lessens voluntary power in the limbs, especially in the lower. The loss of one lobe produces its effect more on the opposite side than on its own. Disease confined to the cerebellum has no effect upon superficial sensation, on the intellectual powers, nor on the action of muscles supplied by the cranial nerves. Hence it appears

that the function of the cerebellum is to supply the voluntary muscles of the trunk and limbs with self-regulating motive power. This is distributed in an inverse manner to the influence of the cerebrum. The latter has the sole control over the parts supplied by the cranial nerves, and the chief control over the anterior limbs. The cerebellum exerts its greatest effect upon the posterior limbs, less upon the anterior. Thus the muscles of the trunk and limbs are under a double rule, while those of the head and neck are regulated solely by the cerebrum. It appears that cerebellar movements are apt to be continuous and habitual, contrasting with the emotional character of those which originate in the cerebrum.

A discussion followed in which Dr. Humphry and Dr. Richardson expressed the conviction that the nervous centres act as a whole, and that their functions do not admit of isolation.—*Proceedings of British Medical Association.*

IS THE OPINION THAT A DIET OF ANIMAL FOOD CONDUCES TO LEANNESS WELL FOUNDED ON FACTS?

By Dr. John Davy, F.R.S.

Dr. Davy said those who have advocated the opinion that a diet of animal food conduced to leanness had supported it by arguing that a vegetable diet was commonly richer than flesh in the elements from which adipose matter is formed, such as starch, etc., and further, that carnivorous animals were commonly leaner than herbivorous. He disregarded the first argument, inasmuch as certain kinds of animal food abounded in fatty matter. He instanced the case of animals subsisting on other animals, all of which were very fat, and he considered that tended to show that a diet of exclusively animal food was in no wise incompatible with fatness. Referring to our own species, it was easy to find corroborative instances. Butchers and their families, who used large quantities of meat, were not remarkable for leanness; and fishermen and their families were generally stout. The English, as a rule, had always been considered large consumers of meat, especially in the olden time, when vegetables were less abundant; and in those periods they were notorious for their stoutness. Did a vegetable diet tend to the production of fat? The Irish, living mostly on potatoes, should be distinguished for lustiness, though they certainly were not; and he had not heard fatness ascribed to vegetarians. Amongst our soldiers and sailors a fat man was a rarity; but that was no wonder, for though their diet contained a large proportion of animal matter, their meat ration was never in excess,

and they were rather underfed than overfed; while at the same time they had a great deal of exercise. His opinion, in which he was supported by eminent physiologists, was that a mixed diet, partly animal, partly vegetable, was best adapted to the wants of man, as well as most suitable to his taste; and that the safest way to avoid obesity was to live moderately, observing the happy medium between a too sparing and a too copious dietary; and, for the correction of obesity, attending rather to quantity than quality of food.

RETINAL DISEASE OCCURRING IN THE COURSE OF KIDNEY DISEASE.

We report this week cases from several sources showing the connexion of certain changes in retinæ with Bright's disease. We give also remarks on the general bearings of the subject by Mr. Hutchinson and Mr. Hart. We have already (Jan., 1864) published a series of cases from a similar kind from the practice of Mr. Hulke; and in the following series we relate one which was partly under his care. The fact that, with kidney affections, there are frequently to be seen characteristic changes on the retina cannot fail to strike Physicians as one most important means of studying this important class of disease. As to the nature of those changes, we cannot do better than to quote from Mr. Hulke's remarks on the cases published in this journal for January 2, 1864. He says:—

"The structural alterations which give rise to those morbid appearances have been ably worked out by German investigators, with whom the retinal disease appears to be more common than with us. Summed up briefly, the greyish opacity of the nerve-disc and retina proceeds from serous infiltration, from sclerosis and hypertrophy of the connective tissue, and from a nodular thickening of the nerve fibres, which acquire such dimensions that some have maintained them to be sclerosed ganglion cells. The small, brilliant white dots are groups of large granular oil-corpuscles, situated in the layer of the outer and of the inner granules. Schweigger supposes that they originate in the connective tissue corpuscles. The redness of the optic disc is from capillary congestion, and perhaps also from the presence of new vessels. The apparent interruption of the vein is due to the intervention of those spots of a thicker mass of opaque retinal tissue between them and the observer. The white appearance of the arteries is caused by amyloid changes in their walls, with corresponding diminution of the calibre. The hæmorrhages proceed from—*a*, the disturbed, vis capillaris resulting from the morbid state of the blood produced by the kidney disease: *b*, an increased mechanical resistance to the free efflux of blood through the veins at the nerve-disc offered by the sclerosed

connective tissue: c, and in some cases, hypertrophy of the left ventricle, which urges the blood more freely into the retina than it is able to escape from it. These are the morbid changes which cause the loss of sight. The sudden obscurations (distinguished from accidentally-discovered pre-existing dimness) depend on hæmorrhages, and their recession coincides with the removal of the extravasated blood. Some cases are susceptible of considerable improvement by treatment. That which I often follow consists in putting a leech to the temple once a week, and the internal exhibition on the tinct. ferri muriatis. Corrosive sublimate, so useful in some forms of retinitis, has not appeared to me to be serviceable here."

We are quite aware that with some physicians there is a great deal of incredulity as to the existence in the retinæ of any characteristic marks of Bright's disease. There are, indeed three opinions on this, as there are on many medical subjects. To give these opinions more concisely than courteously, we may say, first, that it is not true; second, that it is not new; and third, that if true, it is of no practical value. Perhaps we might, to use a common remark, add a fourth, that although there is much novelty and truth in the matter, the new is not true, and the true not new.

We have heard a hospital physician remark that he did not believe that the retinæ were affected in Bright's disease, as he had often asked patients suffering from that disease if their sight were bad, and he had never been told in reply that it was. It must be observed that, although the defect of sight may be slight, or may have come on so slowly that the patient may know nothing of it, or be careless about it, the appearances in the retinæ are, in some cases, very striking. Our readers will find that Mr. Hart draws special attention to this point in his clinical remarks. Although, then, a patient may say his sight is good, he may have white, tallow-like dots in his retinæ. In recording the fact that our patient says he can see well, we must not overlook the other fact that there are slow changes going on in his eyes which may ultimately impair his sight. Similarly, if a patient tells us that he was in perfect health until one morning when he was attacked with hemiplegia, we may record what he says—that he felt well—but we do not infer from that that he was really a sound man when we find his arteries degenerated and his urine albuminous.

As to its being new, it has without doubt long been known that patients with kidney disease have sometimes bad sight, and, moreover, that they are liable to sudden failure of sight, but the nature of the changes to which this was owing could not possibly have been known

before Helmholtz showed us how to look at the retinæ. Moreover, when a patient has kidney disease and defect of sight, it would be running the risk of a great blunder to conclude that the defect was necessarily due to the changes which often go with advanced disease of the kidney. The ophthalmoscope will always enable us to made a correct diagnosis.

It seems hardly worth while to discuss the third point. A fact is always "practical." The first thing is to be satisfied of the accuracy of what is announced to be a fact. If, then, physicians examine the eyes with the ophthalmoscope in kidney disease, and first assure themselves that there really are changes, they must, we submit, not only recognise their importance in the study of defects of vision, but, further, their significance as showing how wide-spread the degenerations of tissues are when there is granular disease of the kidneys. The time is past for us to exaggerate the importance of defects of particular organs. We do not now always blame the kidney as being solely in fault, or even first or most in fault, when we find albuminous urine, although we continue to call a certain constitutional condition by the name of chronic Bright's disease. Every Medical man notes the concurrence of degeneration of arteries with chronic Bright's disease, and it is certainly equally necessary to note the occasional concurrence of other equally marked, although less superficial changes. For if no better treatment can be founded on this knowledge, we may jet learn much as to what chronic Bright's disease means. It is one more point from which to work, a subject in which the physician, the surgeon, and the ophthalmologist are each extremely interested. It is, then, of great importance not to lose the chance of studying this local affection, whether the patient's sight be good or bad. As regards prognosis, there is reason to believe that these retinal changes are of very unfavourable import. It is a sign bad enough when a patient with—let us say—hemiplegia has albuminous urine, doubtless, has still a worse meaning when there is, besides, degeneration of the retinæ.

It is very important that the microscopical condition of the urine should be studied *pari passu* with the changes in the eye, and that the precise form of the kidney disease be noted after death.

SEWERS AND THEIR EVILS.

[While the importance of subsoil drainage is almost universally admitted, it must be acknowledged that there are attendant evils which it is of the utmost importance to obviate. How best to get rid of the gases generated in these receptacles, and to prevent the evil effects resulting from their escape, is now attracting as much attention in England as the

economical question, of how most effectually to *utilize* the fertilizing properties of the contents of these sewers. The following remarks on this subject, in an editorial in the *British Medical Journal*, Sept. 9, 1865 are worthy of consideration.]

"The immense extent of our [London] present system of sewerage probably converts the sewers into one enormous cesspool. It was, of course, the decomposition of animal excrements which gave rise to the dangerous vapours issuing from the cesspools. Now, if these excrements are allowed, in consequence of the length of the sewers through which they now have to pass, to decompose, as they decomposed in the ancient cesspools, why should not the vapours and gases arising from the decomposition in the sewers produce as noxious effects as they produced when they escaped from the cesspools? We some years ago suggested this question, Whether our present system of sewage would not become one enormous cesspool; and whether some special provision ought not to be made for the escape, by high shafts, or neutralization of the products of decomposition. If it be true that the contents of our sewers in London undergo decomposition just as they underwent decomposition in the old cesspools, surely it was something akin to madness to set loose all the products of the decomposition at our very doors and under our very noses. But all this matter requires investigation: and interesting would it be if we could get some sure information as to the ordinary health of those men who pass many hours in these sewers, and whom we occasionally see emerging from iron traps, with lantern and heavy jack-boots. What effect does the inhaling of the vapours of sewers have upon them? Perhaps some of our readers can tell us something of this: and we may add, that we wish Dr. Fuller had furnished the *Times* with some positive proof that the issue of gases from sewers had injured human constitutions and produced diseases.

"Dr. Miller, Professor of Chemistry in King's College, says truly enough, that sewers must be ventilated—*i. e.*, the gases must be let out of them—so long as it is necessary for men to pass through them; and he recommends the process of ventilation and disinfection proposed by Dr. Stenhouse.

"'It consists in suspending charcoal in the ventilating openings. In London, the plan has been carried out by the engineer to the Commissioner of Sewers, with the sanction of Dr. Letheby; and both these gentlemen have reported strongly in its favour. There is placed in each ventilating opening a box, within which are three or four perforated shelves, and on each of these shelves is a layer of wood charcoal; openings are made at the top and bottom of the box, to allow the free passage

of the air; the whole of the air which escapes from the sewer is obliged to pass through the box and over the charcoal before it reaches the outer atmosphere. The offensive and noxious gases are speedily absorbed by the charcoal, and are oxidized within its pores, by which means they are converted into a harmless substance, destitute of odour. The method is so simple and so effectual,' says Dr. Miller, 'that it ought at once to be put in practice, while yet there is time.'

"Again, Dr. Fuller, in a second letter, objects to the process recommended by Dr. Miller, that it is unsafe and unsatisfactory; and recommends an arrangement of ventilating shafts.

"'There can only be one effectual remedy—viz., to trap all the gully-holes and close the innumerable vent-holes with which our roads are perforated, placing in their stead a few large—not necessarily lofty—shafts and openings along the main sewers, through which a thorough system of ventilation could be carried on. Over these ventilators furnaces might be erected to burn the gases, or charcoal air-filters might be placed, if it can be proved that charcoal is no less efficacious as a disinfectant than it is admitted to be as a deodorizer.

"Dr. Letheby, on the other hand, confirms Dr. Miller's statement; and says that, in a densely populated district of London, the experiment has been carried on with success since 1860.

"'The results of it are, that the deodorizing power of the charcoal has been very complete; for not only have there been no complaints of unpleasant smells from the ventilating openings, but we have ascertained by actual observation that the odour of the sewer gases is not perceptible when they have traversed the charcoal filters .....The effect of these air-filters in the ventilation of the sewers is not perceptibly injurious; there is no complaint of bad air from the sewer-men, and analysis of the sewer-air shows no difference in the composition of it.'

"Dr. Herbert Barker, who has proved himself to be a high authority on the subject of disinfection, speaks of ozone as being 'Nature's grand atmospheric disinfectant.' His observations are of much interest, and the practical conclusions recommended worthy of consideration, especially in reference to this matter of the cholera. We conclude that Dr. Barker has satisfactory proofs of the fact that ozone is really absent in the district where cholera rages, etc. Of course, the full establishment of this fact is very important.

"'In the neighbourhood of cesspools, all evidence of the presence of ordinary atmospheric ozone is lost. When ozone is abundant in the air, it may be detected on the windward side of a stable, or cowshed, or manure-heap, but not on the leeward side. It may be observed abund-

antly immediately on the windward side of a town, and not a trace of it discovered at the same time on the leeward side. The ozone test paper in an ill-ventilated church, when full of persons, will give no reaction. I have evidence from my own experience that the diffusion of ozonized air through the apartments of persons suffering from fevers is of immense service, in that it keeps the room free of oppression, and effectually destroys the offensive odours arising from the gaseous excreta of the subject. Ozone, in its action as a deodorizer, closely resembles chlorine. It can be employed permanently by a single process with ventilation. Ozone may be prepared by Siemen's cylinder, the air driven through the cylinder being ozonized by sparks from Ruhmkorf's coil. This method can be adopted only in hospitals, as skilled hands are required for its management. Fortunately, we have a means of generating ozone from phosphorus, which is ready for use at any moment, and with little trouble. Two sticks of phosphorus, each two inches in length, made very clean by scraping, if covered with oxide, and half covered with water, will yield in an hour sufficient ozone, in a room of 3,000 cubic feet, to be detectable by Schönbein's test in every part, and this even when there is good ventilation. The objection to the production of ozone, that there is not a sufficient bulk of water to absorb the fumes of phosphoric acid, may be obviated by using a vessel containing a larger quantity of water, and by floating the phosphorus at the proper depth upon its surface. The degree of evolution of ozone may be tested by a slip of Schönbein's paper. It is very remarkable that, during the prevalence of cholera in any district, ozone has been observed to be absent in that district: not the smallest trace has been discoverable by the test-papers."

MOVEABLE KIDNEY.

M. Trousseau lately made a few clinical remarks on this subject of which the following is a summary:

A strong, healthy man, thirty five years old, presented himself, complaining of having a tumour in his belly. He had frequently had pain at the part where the swelling was; and there the abdomen was found scored with the cicatrices of cuppings and leeches, which had been used, as he said, to cure attacks of *peritonitis!* On examination, there was discovered a solid, oblong, roundish tumour, painful to the touch, in the right side; it was easily moved backwards, but could not be brought to the medial line. By regular and careful pressure, it could be forced back into the right renal region. To demonstrate the nature of the tumour, M. Trousseau pressed upon it slightly, so as to produce pain: and then

pressed over the region of the left kidney, and so produced pain, as the patient said, of an exactly similar kind. A proper bandage was ordered for the man, to protect the kidney from external injury.

In most cases, the kidney displaced is the right kidney; and much more frequently, according to statistics, is it displaced in women than in men.

What is the cause of this displacement of the organ? and why is the right kidney more frequently displaced than the left?

Are moveable kidneys always painful? M. Walther, who has carefully investigated this subject, finds that the kidneys are moveable in a considerable number of persons, who suffer in no way from them. The kidney, under such conditions, usually becomes painful suddenly, after violent pressure, or after great fatigue. Thus, for example, a gentleman complained of great pain in the right side of his abdomen. The surgeon at once discovered a moveable kidney. But how came it to be thus suddenly painful? On inquiry, it was found that the patient had to do duty as national guard every six months; and that on the last occasion, having grown stout, he had much difficulty in putting on his uniform. The pressure on his abdomen was consequently very great, and on the morrow the pain was considerable. Rest and a bandage were all that was required for the treatment. Three cases which have come under M. Trousseau's notice were in men: but M. Roger has said that the affection is much more common in women than in men: and, of thirty-five cases collected by Dr. Fritz, thirty were observed in women. M. Cruveilhier has explained this by the suggestion, that the right kidney is more readily displaced by the pressure indirectly exercised on it through the liver by the stays.

There is nothing surprising in this dislocation of the kidney. We must remember the slight attachments which the kidneys have. They are held to the vascular system only by arteries and veins; and the tissue which attaches them to the surrounding parts is only a feeble bond of union. In fact, the only actual bond is the peritoneum, which fixes the organs against the quadratus lumborum: and the peritoneum is certainly not a firm bond of attachment.

M. Walther's researches show that, in the majority of cases, the symptoms indicative of the affection are very slight. Often, indeed, the existence of the floating kidney is only discovered accidentally. The nature of the moveable body may be generally made out when its existence is ascertained. It is smooth and ovoid, and has, in fact, the shape of a kidney; it is dull to percussion. Careful palpation also may show an absence of the kidney in the corresponding lumbar region. Pressure

also on the moveable body will produce the same kind of pain as it produces on the other kidney *in situ*. A tumour of the liver is not movable. The spleen, when depressed, is larger than the kidney. But, nevertheless, moveable kidneys have been mistaken for disease of the liver, of the gall-bladder, of the spleen, of the mesentery, of the intestines, and for fibrous disease of the ovary.

As for the treatment, all we can do is to support and protect the kidney so displaced. What is especially worthy of note, in reference to floating kidney, is this: that the displacement is far from unfrequenty; that its nature is very generally misunderstood; that the patient is consequently often put to much inconvenience through error of treatment, and to much unnecessary mental anxiety; and that, by keeping the fact of the existence of this affection in his mind, the medical man may sometimes save himself from much disrepute and annoyance.

DEFECTIVE SIGHT FROM DEGENERATION OF THE RETINÆ—BRIGHT'S DISEASE—PERICARDITIS—DEATH—AUTOPSY.

(Under the care of Dr. GULL.)

We saw the patient whose case we are about to relate a few days before her death. The ophthalmoscopic signs were characteristic of Bright's disease. They were such as would lead a good ophthalmoscopist to suspect, if not to diagnose, disease of the kidneys. We were, therefore, interested to hear the patient say that she had been for some time before her present urgent symptoms under Mr. Hulke's care for defective sight, and that she had heard him describe white patches in her eyes.

We have ascertained that from the ophthalmoscopic signs in February Mr. Hulke suspected kidney disease, and found the urine to be albuminous. He told the patient, also, that her life was precarious with such evidence of general disease. At our request, Mr. Hulke has allowed us so make use of the following notes of the patient's case:—

"M. A. H., a sewing machinist, formerly a servant. She was a married woman, but had been deserted by her husband, and lately she had undergone much hardship, and had often got wet. She was, however, in general appearance, healthy, and was short and stout.

"Her first visit was on February 25, her sight having begun to fail at Christmas. She had, she said, 'sat all day in her wet clothes.' The dimness had progressed, so that at the date of her visit she could not manage her machine. Her vision was affected on each side, so that she could only read words of No. 20 of Jaeger's types.

Ophthalmoscopic Signs.—Redness and opacity of optic nerves. Central

vessels indistinct; arteries most so. Retinal veins turgid; fundus strewed between equator and optic nerves, with opaque greyish-white patches, whether in choroid or retina I am not able to positively decide.

"These signs made me suspect kidney disease, and her urine was found to be loaded with albumen, and also contained numerous large waxy casts, and also granular casts, large epitheleal scales, and clusters of pus corpuscles, last two probably vaginal. The patches are not raised and don't shine; the large retinal veins run over some of them, therefore the patches are in outer layers of the retina or in the choroid. The muriate of iron was given.

"March 1.—Optic nerves less hazy. Capillary hæmorrhages in retinæ.

"April 20.—Yellow spots strewed with white dots.

"August 9.—Optic nerves less hazy; paler; central vessels small; yellow spots as at last date; vision, right No. 10, left No. 8."

We now give the notes of the patient's case as found in the pathological records of Guy's Hospital:—

"Mary Anne, age 26, was admitted October 13th. This patient was said to have been ailing from more urgent symptoms for a month. She had had swelling of the legs twelve months ago, and for this had been in the Hospital. Whilst in the Hospital she had pericarditis, epistaxis, and hæmoptysis, and also menorrhagia. The urine, examined October 24, was albuminous, and sp. gr. 1015. She died October 27.

Autopsy by Dr. Moxon.—The head was not examined. The left bronchus was pale everywhere, or at most of a rose colour, the right was of a deeper rose tint; scarcely any contents. The left chest contained about a pint or less of slightly turbid straw-coloured serum. The pleura had no lymph in it. The right chest contained a smaller quantity of fluid of like quality. Both lungs were displaced outwards by the much distended pericardium. The left lung was airless from its position, and had been evidently rendered so by the pressure of the pericardium. The lower lobe of the right lung was bulky, but somewhat crepitated. Its section yielded serum less frothy than usual; it broke down readily. The upper lobe gave a frothy fluid, and felt less substantial, and yet was distended.

[Dr. Moxon then gives a detailed account of the appearances connected with the pericarditis.] The liver weighed 55 ounces. It was of a uniform light colour. There was no trace of cirrhosis nor of the appearance described as "nutmeg." Kidneys weighed nine ounces; they were markedly granular, yet of a dead white colour generally. The cortex a good deal wasted, Ovaries having false corpora lutea.

CHLORATE OF POTASS IN THE TREATMENT OF OVARIAN DISEASE

By W. Craig, L.F.P.S.G., Ayr.

Disease and enlargement of the ovarium have long resisted all kinds of treatment, and many medicines have been used in attempts to absorb the tumour, but hitherto unavailingly. Extirpation for some time past has been the favourite method of treatment, but it is attended with a large expenditure of life,—at an average, nearly every second case. It is very desirable, then, that a mode of treatment could be discovered which would prevent such an expenditure of life, and this usually when the patient is in the most hopeful and interesting period of her existence.

In the following cases the cure has been effected by the administration of chlorate of potass. I could form no opinion regarding the nature of the tumours, other than that they were ovarian.

In his work on the "Science and Art of Surgery," Mr. Erichsen states, that "medical means exercise no influence in curing, and but little if any in retarding the progress of ovarian tumour."

Dr. Charles Clay, of St. Mary's Hospital, Manchester, makes the following statement in the "London Medical Review":—"I conscientiously believe that neither medical treatment, external or internal applications, pressure, nor galvanism, are of the slightest benefit. They neither cure nor palliate the disease. All such attempts, then, are fallacious, and only throw obstacles in the way of any benefit that extirpation of the tumour offers; increasing the difficulties of that operation, if not defeating it altogether."

The treatment in the following cases is an exception to the above statement, as they were treated and cured by means of a very simple medicine, viz:—Chlorate of potass. It may be that one only of the species into which this disease is divided may be of a nature to be removed by this medicine, and, consequently, the others may remain uninfluenced by it; but, during the life of the patient unless after the operation, it is not always possible to learn the exact nature of the tumour: but whatever be its charater, it can do no harm to the patient to allow her to have the benefit of a trial of this medicine, as it has a favourable action on the functions of the body, irrespective of the action on the tumour.

Chlorate of potass, as is well known, is a medicine that can be used with the utmost freedom. I do not pretend to offer an opinion as to its *modus operandi* in this disease. The circumstance of this salt having in combination a large quantity of oxygen, which is held feebly by the potass, and is let free in the system, may cause it to operate beneficially on the constitution, invigorating and improving the animal functions so as to enable them to throw off these morbid growths.

Case 1.—Miss S., of Ayr, is of middle height, sallow complexion, and apparently of sound constitution. The tumour is on the left side, rising out of the iliac region. It is about the size of a child's head of a month old. The patient states that the tumour is sore when pressed, also during defecation and micturition. She menstruates regularly. It is free in its attachments, and rolls from side to side as the patient turns in bed. It is about five years since she first observed the enlargement, and it was about a year after this when she first applied for medical advice. She had the counsel of many medical men, and took many medicines, but received benefit from none of them. She was under the treatment of one medical man during the twelve months immediately before coming to me. This gentleman used many medicines and numerous external applications all without any beneficial effect. He then, with the consent of other medical men, resolved to perform the operation, but he died when preparing for it.

When she came to me I immediately put her upon a saturated solution of chlorate of potass,—a dessert-spoonful thrice daily. She stated that she had only taken the medicine two or three weeks when she felt a gradual improvement in her general health. The tumour gradually diminished in bulk till, at the end of ten or twelve months, it disappeared. After the tumour had been so far reduced as not to be felt through the parietes of the abdomen, it could be felt in its greatly reduced size lying close to the uterus. About this time it was about one and a-half inch in diameter. Subsequently, the tumour has disappeared completely, with the uneasiness and symptoms depending on its bulk, and she has since continued in her usual health.

Case 2.—Miss C., from London. The attention of this lady was first called to her complaint when taking a bath in June, 1861. At this time she felt a swelling rising from the right side of the pelvis. It was then about the size of an egg, and moved from the side to the middle of the abdomen. There was no pain in the tumour when the body was at rest, but in quick walking and some other forms of bodily exertion, it seemed as if bound by a light network all over the lower part of the right side. There was frequently a dull pain in the iliac region, and more rarely a sharp, stinging pain; but when at rest, or in ordinary walking, there was no pain. The patient states that her health was very sensibly affected by it. "I lost strength and tone, and became listless." The tumour grew rapidly from June to September, but after this the enlargement was slow in its progress. The tumour till now was always movable, but subsequently it became more fixed.

She came expressly to Scotland to consult an eminent practitioner, and

was under his treatment two months of the summer of 1862, and nearly as long in the same season of 1863.

It was in the autumn of 1863 that she consulted me. On examining the tumour I noted no particular induration of its texture, but its size was about that of a large fist. Her former adviser had used many medicines and appliances with but little effect. The patient was twice cupped and leeched over the tumour, and the skin was twice painted over with a preparation which acted like a blister, and was also painted many times with combinations of iodine. She had tonics from the beginning, and daily a solution of bromide of potass. She also passed an electric current through the tumour for half an hour daily, and this was done during two years. The only effect of the treatment hitherto applied was to make the tumour "more compressed or harder." Immediately on her application to me I commenced the administration of the saturated solution of chlorate of potass in dessert-spoonfuls thrice daily, and with what effect I shall allow the patient to tell. "I will add, that about three or four months after I had seen you, and taken the medicine you prescribed, the swelling disappeared as it came, silently and suddenly. I continued your medicine, and the occasional use of the electric battery until a few months ago. I use neither now; and as I said before, I have no swelling; none whatever; none."

I saw this lady in London a short time ago, and I could not discover a vestige of the tumour.

Case 3.—Miss H., from Glasgow, has had for a considerable time a tumour of the left side in the left iliac region. It was about the size of a large fist closed. She had used the chlorate of potass for two or three months before observing much diminution of the tumour, and at this time left off the use of the medicine. She was induced, however, to commence the use of the medicine again, and she states, that during the last few weeks, whilst using a renewed supply, the tumour has become much smaller, and gives less uneasiness.

A fourth case, in Ayr, presented herself with a small tumour in the left iliac region. The tumour had been observed for many months. It was painful, more especially when it was pressed. The size could not be well estimated, as the abdominal parietes were thick. I commenced with the chlorate of potass, but the patient soon became impatient and would not persevere, and has failed to continue the medicine.

So few cases go but a small way to establish the efficacy of this medicine in the cure of ovarian tumours; but, in view of the declaration of experienced and practical men who have seen much of this disease, and who maintain that medical means exercise no influence in curing, and

but little in retarding the progress of ovarian tumours, it is right to produce facts, in however small numbers, when they show that medicine is not so inefficacious as represented by some writers on this subject.

It may be admitted, that before publishing my experience of the efficacy of chlorate of potass in the treatment of ovarian disease, I ought to have been able to present a larger number of successful cases; but in a small town, amongst a rural population, there is less chance of meeting a satisfactory number of cases than in the crowds of large cities.

Though the number of examples be small, the success attending the treatment ought to encourage a trial of a medicine that can be used with the greatest freedom, and could always be tried—provided there is no contra-indication—before having recourse to such a formidable operation as that of ovariotomy.—*Edinburgh Med. Jour.*

Surgery.

CLINICAL REMARKS ON CASES OF AMBLYOPIA AND RETINITIS ALBUMINURICA.

(Under the care of Mr. Ernest Hart, St. Mary's Hospital.)

In calling attention to a case of advanced albuminuric retinitis, Mr. Hart remarked that it was of particular interest to ascertain how far the disturbances of vision, associated with nephritic albuminuria, were pathognomonic, and what extent the ophthalmoscopic examination of the eye, in patients so affected, could assist the diagnosis or aid the treatment. Ophthalmic Surgeons occasionally meet with cases of acute retinitis albuminurica in which the affection of the sight is the first striking symptom, and in which the ophthalmoscope the diagnosis of the physician, derived from the clinical history and the chemical analysis of the urine. Such cases, however, were, in his experience, rare, and usually were examples of oversight due to various causes, such as eccentricity of the complaint or the patient, and unusual complications diverting the attention of the physician. In the case in question the patient had come to a practitioner complaining of acute pains in the ankles—"rheumatic pains," as he himself called them. That diagnosis had seemed to be borne out by various collateral circumstances, and had passed muster; manwhile, however, and rapidly, the sight had become very much disturbed, and, as the man's livelihood depended upon his keen perception of minute textile difference of structure, he was quick to perceive and to suffer from this deterioration of the acuteness of his vision. When examined by Mr.

Hart, the ophthalmoscope immediately revealed, in the right eye, the most marked and considerable retinal changes, perfectly diagnostic of albuminuric retinitis, obscurity of the papilla, bright fatty patches of the retina, with a tendency to grouping around the yellow spot, and irregular extravasations of blood affecting the linear arrangement. The diagnosis was permissibly positive, for the changes accompanying albuminuric retinitis once seen cannot be mistaken. The vision of the eye was considerably affected, much more so than the patient had been aware till the eyes were tested separately. The examination of the urine showed a large amount of albumen. Treatment by muriated tincture of steel with free use of the Turkish bath failed to relieve the patient, and he died at the end of three months, all but blind with the right eye, and having very imperfect vision with the left. The pathological changes were of a typical character, the ecchymoses becoming more numerous, the fatty patches coalescing, and the macula lutea being almost entirely destroyed; the retina was not detached. Mr. Hart expressed the opinion that the ophthalmoscopic observation of these symptoms was interesting, as affording a means of studying the changes which the nervous, like the other tissues, undergo in this blood disease, but they afford no indications for local treatment, which, indeed, in such a condition, would be out of place. To what extent could repair go on after serious destruction of the retinal nerve tissue? An examination of a series of cases of albuminuric retinitis might afford the answer. He had not had the opportunity of witnessing any case in which good results had attended treatment, but probably others might have done so. He knew of no record, but would hesitate to believe that nephritis with albuminuric retinitis was always fatal. This was a point to be decided by the accumulation of evidence.

There were, however, other and more trifling affections of the sight in nephritic albuminurica which came under the notice of the ophthalmic surgeon, in which the ophthalmoscope revealed nothing, but to which attention should be directed, because he believed that, as they were of earlier occurrence so they were of greater value in directing treatment. There is a form of intermittent dimness of vision unaccompanied by ophthalmoscopic change which had frequently come before him, and in which, guided by the observations of Landouzy, he had always looked for albuminuria in the urine, and several times had found it. It was unassociated with any apparent change in the retina, and was probably due to the cerebral disorder either precedent to or consequent upon albuminuria. M. Laucouzy, who approached the question from the simple study of the naked eye symptoms, had drawn the following conclusions from his study:—1. That the disturbance of vision is an almost constant symp-

com in albuminous nephritis. 2. That these troubles constitute a new species of amaurosis, which may be called albuminuric. 3. That the albuminuric amaurosis cannot be attributed to the deterioration of the strength. 4. That it very often announces the disease as an initial sign, before the innovation of the pathognomonic accidents. 5. That it appears and disappears, and then returns without exactly following the phases of the albuminous deposit in the urine or of the œdema. 6. That it should lead us to consider albuminous nephritis as an alteration of the ganglionic system.

Mr. Hart remarks that Dr. Roberts, in his recent work, attributes the "hæmorrhagic blindness" of retinitis albuminurica, which he speaks of as in no sense uræmic to the hypertrophy of the left ventricle, which so commonly accompanies a contracting kidney and the increased tension in the arterial system consequent thereto. But that this explanation, while it assists to understand the frequency of the extravasation from rupture of small retinal vessels, would be incomplete unless we recalled also to mind the considerable fatty degeneration of the retinal connective tissue and the sclerosis of the nerve-fibres. The deposit of fat was frequently locally anterior to the appearance of ecchymoses. The value of ophthalmoscopic examination in all cases, whether of amblyopia or retinitis albuminurica, was thus apparent, both in reference to the negative information which it afforded in the one case, and the positive data supplied in the other. Intermittent amaurosis associated with albuminuria pointed, he said, to a train of causes very different to those connected with the incomplete persistent blindness due to fatty substitution and inflammatory destruction of the nerve fibres of the retina. It was to be observed how much more complete the loss of vision was for the time where, as in the amblyopic state noted, the cause was central, than where, in the true albuminuric retinitis, the loss of vision was due to peripheral disorganisation. A considerable amount of retinal disease was compatible with the retention of considerable power of sight; and thus, as in other forms of disorganisation of the retina, especially pigmentary retinitis, the patient did not discover the serious affection of the eyes until the disease had extended very far. Hence, if the use of the ophthalmoscope were deferred until urgent symptoms appeared, the examination was apt to be put off till the chances of doing good were materially diminished, It was the more important to remember this because it was precisely in the case of peripheral disease that the ophthalmoscope afforded the most extended and most useful information, and enabled the surgeon or physician carefully to intervene, if in time and in suitable cases.

LIGATURE OF THE SUBCLAVIAN ARTERY FOR ANEURISM OF THE AXILLARY.

By Edgcombe Venning, Esq., M.R.C.S., Assistant-Surgeon to the First Life Guards, and late House-Surgeon to St. George's Hospital.

Trooper J. C —— presented himself at the regimental hospital on the 31st of August, 1864, complaining of considerable pain about the right wrist and shoulder-joint. He stated that eight months previously, in going down some steep stone stairs in barracks, he fell backwards, with his right arm extended, and directed outwards and backwards. The wrist was very painful for some time after, and though a good deal swollen, he continued to do his duty. Only nine days prior to admission did he notice any swelling about the shoulder-joint.

On admission he complained of considerable pain about the lower third of the right forearm, at which situation on the radial side there was an irregular swelling. This appeared like the remains of an old fracture badly united, and was the result, I believe, of a fracture of the radius caused by the accident, the bone being kept in tolerable position by the ulna, which had not been injured. On examining the shoulder-joint I found a pulsating tumour, about the size of a hen's egg, situated over the course of the axillary artery. The pulsation was very strong, and the bruit in the tumour exceedingly loud, both of which ceased when pressure was made on the subclavian artery. The ulna and radial pulses were much diminished in force in comparison with the opposite limb. Finding from the patient's account that the tumour had increased rapidly, I requested Mr. Cutler and Mr. Pollock to see the case with me, and they were both of opinion that deligation of the subclavian artery in its third portion should be performed at once. In accordance with this opinion, having the assistance of both Mr. Cutler and Mr. Pollock, (chloroform having been administered by Mr. Freeman,) I proceeding to perform the operation, and without much difficulty succeeded in tying the artery. The external jugular vein, being in the way, was tied above and below, and cut through, and all small bleeding vessels were ligatured. On the ligature around the subclavian artery being tightened, all pulsation in the tumour ceased. The edges of the wound were brought together with silver sutures and strapping, and the limb was enveloped in cotton wool. When the effects of the chloroform had passed away, I ordered him a liberal diet, and a full dose of opium at bedtime. The following morning I found he had had several hours of refreshing sleep. The pulse was 88 in the minute; the skin was cool, and the tongue clean and moist. The temperature of the affected limb was normal, and the only thing he complained of was a pricking pain throughout the extremity. From this date al

went on well; pulsation was felt in the brachial artery on the seventh day after the operation, and on the ninth it was felt quite strong in the radial and ulna at the wrist; but two days after, it ceased in the brachial and radial and ulna, and has never been felt since. No bad symptoms accompanied the cessation of pulsation. No pain was experienced in the aneurismal sac, and on the eleventh day the ligature around the subclavian artery came away. Twenty-four days after the operation the patient left the hospital, the wound having almost entirely healed, and he in good health. The reason for his quitting the hospital so soon was, that small-pox had broken out in the regiment, and I was unwilling to run the risk of his becoming a victim to the malady, as there were several cases in hospital. He left London on a month's furlough for Nuneaton, where on his arrival, as he felt somewhat weak, he placed himself under the care of Mr. Nason. I heard no more of him until the end of October, when I received a letter from Mr. Nason, in which he related to me that he had been sent for to see my patient in consequence of severe hæmorrhage having come on from that portion of the wound made at the operation, which had not healed when he left London. I immediately went to see him, and met Mr. Nason in consultation. Bleeding (although all proper means had been adopted to arrest it) was still going on. A large abscess had formed beneath the clavicle, accompanied by enormous œdema of the right upper extremity, and mortification had commenced in the little finger. The question now arose as to where the hæmorrhage came from. We came to the conclusion that it was the result of a large sloughing cavity formed by the abscess. I therefore put my finger into the wound, and broke down all the old adhesions, so as to allow the escape of a considerable quantity of foul pus and blood. No return of bleeding occurred subsequent to this, but unfortunately pyæmia set in, followed by a series of abscesses, one of which was situated in the elbow-joint, and for a considerable period he hung between life and death, under Mr. Nason's care: but by the untiring care and attention of that gentleman the patient rallied, and so far recovered as to be able to rejoin his regiment, though with an anchylosed elbow-joint, and considerable loss of power in the hand. This latter he is rapidly recovering, and the forearm is at a right angle with the arm: so that there is every hope of his ultimately having a very useful limb.

EXCISION OF THE TONGUE.

Dr. George Buchanan, Surgeon to the Glasgow Royal Infirmary, has successfully excised one lateral half of the tongue, following "the bold and ingenious proposal of Mr. Syme to divide the lower jaw at the symphysis." (See *Edinburgh Medical Journal*, November 1865.)

MR. FERGUSSON'S CASE OF REMOVAL OF THE SCAPULA.

We have already in a previous "Mirror" (THE LANCET, August 26th, 1855) recorded particulars of Mr. Fergusson's patient. She is a young woman, from whom in January last the lower two-thirds of the scapula were removed. In February she left the hospital with the wound healed and the arm freely movable. She came to show herself from time to time, until on one occasion Mr. Ferguson found a swelling under the pectoral muscle, a spot very distant from the seat of operation. The swelling rapidly increased; some œdema showed itself in the arm, indicating pressure upon the veins. This, however, after a time disappeared. With the growth of the tumour, which was exceedingly rapid, the girl's health began to fail. Hoping against hope, Mr. Fergusson delayed operative-interference until it became evident that life would be sacrificed unless the disease was removed. The tumour was now so extensive that nothing short of the operation performed would have been sufficient to remove it. Accordingly on the 11th instant Mr. Fergusson proceeded to operate in the following manner:—

The patient having been placed under chloroform, a grooved needle was thrust into the upper part of the tumour a little below the clavicle, at a point where it seemed just possible, from an obscure sense of fluctuation, that fluid was present. There was, however, none. A small incision was then made over and along the clavicle about an inch and a half external to the sterno-clavicular joint, through which the bone was divided by the saw and cutting pliers. The object of this, as Mr. Fergusson afterwards explained, was to allow free movement of the shoulder during the ensuing steps of the operation, without causing any strain upon the sterno-clavicular joint. By this step, too, implying the preservation of the inner end of the clavicle, the sterno-mastoid muscle was reserved entire. An assistant (Mr. Wood) then trust his thumb through this wound and compressed the subclavian artery upon the first rib. Next, the incision was continued along the clavicle, at first outwards, then backwards over the acromion, and lastly downwards and forwards, so as to terminate in the inner and upper part of the arm below the axilla. From the point where this incision, leaving the clavicle, tended backwards, another was made passing down in front of the shoulder-joint, and meeting the first at an acute angle. By these means two semilunar flaps were formed, one before and the other behind, and the skin of the axilla was preserved. The tumour having been exposed by dissecting the flaps from its surface, the muscular structures which attached it to the trunk were divided. There still remained to be accomplished the section of the subclavian ves-

sels and the accompanying nerves, and this was the most delicate part of the operation. Behind the clavicle the tumour was less distinct than at any other parts, spreading vaguely amongst the tissues, and rendering it doubtful at first how far it might extend amongst the muscles of the neck. A careful dissection succeeded in completely isolating it. The mass was then drawn forwards, and the subclavian artery was compressed. In order to obviate the chance of slipping, a strong forceps, such as is used for removing sequestra, had been prepared by having its teeth covered with wash-leather. The blades of this were pushed from behind forwards so as to enclose the subclavian vessels, and another instrument of the like kind was pushed from before backwards with a similar object. Thanks to these, which admirably answered their purpose, there was no difficulty in retaining and ligaturing the artery, and the operation was completed by finally dividing the remaining tissues, chiefly nerves and vessels, outside of these blades, with the loss of scarcely a tablespoonful of blood. For precaution's sake, ligatures were applied to two or three other vessels, but they were scarcely needed. The flaps were then brought together, sutures applied, and the patient removed.

We have embodied in our description of this case some of the points which were mentioned by Mr. Fergusson after the operation. He remarked, in addition, that formidable as the operation appeared, it was more simple in its nature than that for excision of the scapula performed some months ago in the hospital. Doubtless there was much risk in the removal of so large a portion of the body, but the extent of tissues divided was not so great as in amputation at the hip-joint. It was remarkable, too, how successful operations about the upper extremity generally proved. The operation was performed in order to save the girl's life, which was seriously threatened by the progress of the disease. From the nature of the growth it was unfortunately only too probable that it would recur, but surgery could not hold itself responsible for such an accident. It would have been noticed that the girl appeared pale, and became faint during the operation. He was inclined to attribute this to the effect of mental influence during the last few days. She had suffered much distress owing to neglect on the part of her parents. The loss of blood had been exceedingly small, and this result was owing, he was glad to acknowledge, to the admirable assistance which had been rendered during the operation. Mr. Fergusson then referred to previous operations for the removal of the upper extremity, scapula, and clavicle; and added that this was the first occasion on which he had performed this operation, and he believed that it was also the first time it had been done in London. He

was doubtful whether he should have undertaken it but for the very successful case which had been recorded by Mr. Syme.

Mr. Fergusson then showed the patient from whom, in June last, he had removed the scapula, leaving the arm otherwise entire (see "Mirror," Aug. 26th, 1865). The man appeared in perfectly good health, and had gained much flesh since we last saw him. The wound had healed long since, and a scar, shaped something like the letter H, occupied the position of the scapula. The advantage gained by leaving the acromion process was very patent. There was remarkably little deformity, and, owing to the preservation of the attachment of the trapezius muscle, the mobility of the limb was excellent. The man could move his arm freely in any direction, lifting it even laterally with the greatest ease and evident power.

PURPURA HÆMORRHAGICA, COMMENCING AT FOUR YEARS OF AGE, AND ENDING FATALLY BY HÆMORRHAGE FROM THE LUNGS ON THE OCCASION OF FIRST MENSTRUATION.

By John P. Quinlan, Surgeon, Borris-leigh.

Margaret R——, the daughter of a well-to-do widow in the farming line, was placed under my care in the year 1854 or 1855 for the above disease. From the history of the case, I learned that about a year previous small red spots appeared over the body, which continued increasing steadily, becoming larger and of a darker colour, until now, when they presented the appearance of irregular patches, as if produced by bruises, as well as my memory serves me. At this stage there were no symptoms indicative of any great derangement of health. Having taken no notes of the case I am now unable to say what treatment I then adopted: but I recollect that after three or four months under my care the little patient got better, when I lost sight of the case.

On the morning of the third of April last, I was expressed for to see my former patient (not then known to me as such). On my arrival I learned from her mother that for the past week the girl (now 16 years of age) had her first menstrual change on; that she continued to work at agricultural business during the time (weeding potatoes); she had lost a good deal of blood, and had fainted two or three times during the day and night before. On inquiry as to the state of her health since my former attendance, I learned that she grew up stout and strong, the spots had disappeared, but there was still a tendency to the ecchymosis from any slight bruise, and for the three years previous she bled from the gums very often, so much so as to stain her pillow at night. There was no other hæmorrhage.

On examination I saw at a glance that hæmorrhage to an alarming extent had prevailed, the girl was pale and faint, sighing and restless, the surface cold; in fact, in a state of well-marked acute anæmia, involving life in great danger, and, to my great disappointment, I found myself entirely unarmed with a drug of any use in the case; stimulants I could get none immediately, not even a drop of whisky, we being in the midst of the mountains, a considerable distance from any town or village. I had the head lowered, warm jars put to the feet, directed perfect quietness, and dry-cupped the loins, and requested a messenger to follow me at once for medicine; but before my medicine reached, at all events before there was time for its administration, or for the stimulants ordered, death ensued.

CLINICAL SURGICAL CASES.

By GEORGE BUCHANAN, A.M., M.D., Surgeon to the Glasgow Royal Infirmary.

FRACTURE OF SPINE.

The following case shows the obscure symptoms which sometimes follow fracture of a vertebra when the displacement is so small as to cause no deformity. They were so obscure that I was only able to point out to the students, during the lifetime of the patient, the probability of some injury to the medulla. It was evidently of little extent, for sensation and voluntary motion of the lower extremities were unimpaired. Careful examination of the back detected no fracture, and I was led to suppose he had sustained some unimportant injury to the cord which would pass off and leave him restored. The post-mortem examination disclosed a lesion, which of course, rendered the symptoms more grave every day.

Instead of epitomizing, I give the case in the words of Mr. A. H. Miller, my assistant.

James L——, aged forty-four, engineer, admitted Aug. 8th. This patient was brought in by policemen, who reported that he had fallen from a ladder at a height of three stories, and that he fell with his feet foremost. On admission the skin was found to be cold: surface pallid and moist. Pulse rather slow and weak. Patient perfectly sensible, but scarcely able to answer questions addresssed to him.

On examination of the body no fracture could be detected. There was a slight prominence over the sacrum; on its left side this was found to be quite soft, as if formed of effused blood. There was no other injury apparent, with the exception that the cartilage of the seventh rib had been separated from its attachment to the sternum. The patient had no difficulty in moving any of his limbs, and sensation was perfect.

Complained of great pain in the hypogastric region, which seemed to be caused to some extent by an accumulation of urine. When the urine was drawn off he experienced considerable relief.

Aug. 16th.—For the last eight days the patient has had bilious vomiting, accompanied with great sickness and loss of appetite. He can only take food that is very easily digested—e. g., arrowroot milk, &c. The skin is still rather cold, pale, and moist. Pulse 80, weak and soft. As yet he has not recovered any power over his bladder or his bowels. His urine is retained, but the stools are passed unvoluntarily. Although this is the case, there is no tendency to looseness, but rather to costiveness so much so that he has had castor-oil and five grains of calomel at separate intervals.

18th.—Bowels to-day rather loose; stools passed involuntarily; appetite much approved.

21st.—To-day the feet are observed to be œdematous. Bandages were ordered to be applied from the toes upwards. The patient was subject to frequent and profuse perspirations, and is evidently losing flesh rapidly. He is so weak that he is scarcely able to rise in bed. Ordered one-sixteenth of a grain of strychnia twice a day. He complains now of a pain in the right groin. From his own statement it appears to be very severe. Fomentations were ordered for this, and frequent doses of solution of morphia.

25th.—Patient now complains of a pain in the epigastric and hypochondriac regions, and extending to the spine behind. It is thought to be dependent to some extent on displacement of the cartilage before reported. A bandage was ordered for the chest, and continuation of narcotics. Conjunction noticed to be slightly icteritic in colour. Bowels at this time rather irritable; pulse 100, weak.

Sep. 7th.—For the last two days the patient has been troubled with a cough so severe as to require medical treatment. He is recommended to assume the lateral position, each side alternately, in order to facilitate the expectoration of the bronchial secretion accumulated during all the time that the decubitus has been dorsal. This coughing comes on at intervals of seven or eight hours, and often continues from four to five minutes at a time. Expectoration frequently very profuse, principally frothy mucous. Pulse 110, weak.

14th.—Continues in a very weak and helpless state. Although he takes a large supply of nourishment, he daily loses flesh; his cheeks have become hollow, and his eyes much sunk. He again passes his stools involuntarily, but retains control over his bladder. Cough continues to be very troublesome; exacerbations more frequent and severe; perspiration

very profuse. To-day patient called attention to a pain in his left groin, so severe that he could not bear the slighest pressure upon the part. Pulse 120, rather soft and weak.

20th.—As the patient in health was accustomed to take large quantities of stimulants, he has been allowed for three weeks on an average from five to six ounces of spirits daily, and during the last few days of his life, although he could take a moderate quantity of food, he showed a great craving for alcoholic stimulants. Sensation in lower extremities perfectly normal, and voluntary motion was only lost by the general weakness, which was the cause of his death to-day.

Post mortem examination.—On opening the chest there were found firm adhesions of both pleurae. The lower lobe of the left lung was collapsed, and firmly bound down by strong adhesions. The lower lobe of the right lung was much consolidated, hard, and containing some chronic abscesses of pneumonic origin. No tubercular deposit. The liver, from its anterior surface to a considerable depth into its structure, presented the appearance of recent inflammatory action. Both kidneys and spleen were much congested and bound to neighbouring parts by effused lymph semi-organized. On the removal of the abdominal viscera an abscess was detected on each side of the vertebral column, opposite the eleventh and twelfth dorsal vertebræ. The twelfth dorsal vertebra was found to be fractured transversely throughout the entire thickness of its body, and the fragments very slightly, if at all displaced. The fracture only implicated the body of the vertebra. The abscess extended round the spinal column, and on dissecting the vertebral muscles to expose the injured bone, it was found that the abscess extended vertically for about six inches on each side of the column posteriorly. The membranes of the spinal cord opposite, and extending an inch above and below the seat of fracture, were found matted together by effused lymph. There was also some effusion on the surface of the cord, but the nerve-substance did not appear to have suffered from inflammatory action.

LARGE AND MOVABLE ABDOMINAL TUMOUR OF THE LEFT SIDE, SUPPOSED TO BE OF NINE YEARS' DURATION, AND TO BE OVARIAN; DIAGNOSIS, LARGE CYST OF THE KIDNEY.

(Under the care of Mr. Holmes Coote.)—M. K——, aged 19, domestic servant, a well conducted and most respectable girl, was admitted Feb. 16th, 1865. She had been once employed as artificial flower maker, but subsequently became a nursemaid, which place she was forced to resign, not on account of any inconvenience which the tumour occasioned.

but simply because the duties were too heavy for her strength. She says that she has had a large abdomen for the last eight or nine years, but was not aware of the existence of a tumour until two years ago, when she was temporarily in another hospital. She has attempted to resume her work, but has always found it "too hard."

There is a well-defined tumour on the left side, under the abdominal parietes, movable, and extending from the iliac to the lumbar region. The measurement from the pubes to the upper end of the tumour is nine inches. When she lies in bed both sides of the abdomen seem equal, but when she stands up the left side is fuller than the right. The urine is thick, and contains lithates and a variable quantity of mucus. Vaginal examination yields nothing abnormal.

A careful examination of the relations of this tumour, its apparent want of connection with the uterus and its appendages, its prominence in the lumbar region, combined with the condition of the urine, induced Mr. Coote to come to the conclusion, in which he was supported by his colleagues, that the disease was a cyst in the kidney. The possibility of such an occurrence should be borne in mind in the examination of abdominal tumours. In the museum of the hospital (series 26, No. 38) there is the following specimen: "A large sac caused by dilatation of the pelvis of a kidney, in consequence of the impaction of a calculus in the ureter." It formed a movable abdominal tumour, the nature of which was doubtful during life. The late Dr. Bright observed: "I have known the enlarged kidney to be mistaken for disease of the spleen—of the uterus—of the ovary—and for a tumour developed in the concave part of the liver; nor is it possible, perhaps, by the greatest care and the most precise knowledge, altogether to avoid such errors."

As in most tubular gland structures, the kidney may present either a single large cyst near its ejaculatory tube, or a great number of smaller cysts pervading its entire substance. Such a case is recorded by the late Dr. Bright p. 208, on Abdominal Tumours. Mr. Coote remarked that many years ago he had removed from the body of a patient who died in Bethlehem Hospital two kidneys, both enlarged to three or four times their natural dimensions. During life no symptoms indicated their presence: the urine was to all appearance normal: there was no trace of albumen. The cysts seemed to have separated and pressed aside the component parts of the kidney; but the vascular and secreting structure readily admitted the passage of fine injection. The abdominal enlargement was very marked as the subject lay undressed on the dissecting table.

Mr. Coote's patient remained but a short time in hospital, and then

returned into the country. The correctness of the diagnosis cannot therefore be determined.—*Lancet.*

GANGLION OF THE WRIST.

By Robert Burnett, F.R.C.S.I., L.K.Q.C.P.I., of Tullow.

Respecting the treatment of "Ganglion of the Wrist," described in the article on this disease in The Medical Press of last week, where the extreme measure of excision of the diseased structure is recommended, I beg to offer the plan I pursue in such cases as much less painful, without danger, and equally as certain of cure in the results—namely, that after rendering the parts tense by bending the hand at the wrist, you make a subcutaneous incision at the side of the tumour with a narrow-bladed sharp-pointed bistoury, next carried horizontally through the same, dividing it into equal portions. Retain some of its contents in the wound, and apply a compress containing in its folds a thin piece of lead or a small copper coin, and applied firmly over the incision supported by a bandage to be kept moist by the employment of cold water should any pain or heat be felt.

The removal of these dressings after a few days will exhibit the parts perfectly amalgamated, and after the lapse of some years I can produce parties thus treated without the least appearance of the disease.

ACTION FOR DAMAGES: ACUPRESSURE.

At Kilmarnock, last week, Dr. John Caldwell sued one Hamilton, residing near Dreghorn, for £12 damages for defamation of his professional character. Defender's son was wounded in the leg by a scythe; and pursuer, on being called, found that the posterior tibial artery had been cut. He thought it a good case for the method of acupressure introduced by Dr. Simpson two or three years ago. He accordingly applied needles and bandaged the leg, which he said effectually stopped bleeding. On the ninth day after, secondary haemorrhage ensued and the same treatment was repeated; and again a third time. On the fourth occasion (September 13th), he cut up the limb in order to get at the artery, but finding it rotten up to the knee-joint, he sent for a tourniquet and screwed it on, to give time for a consultation. He then went for a few minutes into a neighbouring house, during which time the boy died. After he left, pursuer stated that the boy's parents had allowed him to unscrew the tourniquet, contrary to express instructions. It was complained that defender had subsequently said to different persons that pursuer had "murdered" or "killed" his son. The defence was that the expres-

sions libelled on were not used, but it was attempted to be shown that acupressure was not a fit mode of treatment in the circumstances, and should not have been persisted in. Dr. McLeod approved of his treatment in every respect. Dr. Campbell thought it was unjustifiable to use needles at the depth of the posterior tibial artery, and said that the proper mode would have been to tie up the artery with ligatures. He also thought it was wrong of pursuer to enter on the last operation without professional assistance, as the parties who held the artery by thumb pressure could not do it properly unless they had a knowledge of anatomy. From the evidence, as to the expression complained of being used, the Sheriff held that it had been substantially proved. He also held that it had not been proved that Dr. Caldwell had erred in any one particular, and his lordship therefore decerned £5 damages.—*Glasgow Herald.*

Midwifery and Diseases of Women and Children.

DELIVERY DURING SLEEP.

By ADOLPHUS SAMELSON, M.D., Manchester.—In the evening of February 22nd, 1844, I was sent for to Zabelsdorf, a village near Zehdenick, in the Uckermark, where I then resided (some thirty miles from Berlin), to attend a case of labour. Hannah Rohde, the wife of a farm-labourer, about forty years old, of middle size, spare habit, and sallow complexion, having had eight children, of whom three were living, had passed easily through all her confinements; but, immediately after several of the births, especially after the eighth, she had for a short time been unconscious.

At about one a.m., on the above day, some blood was first observed to come from the vagina; however, it stopped again, when about noon a more copious flow set in, which now continued through the afternoon, and soon associated itself with unconsciousness. At 7.30 p.m.—the time of my arrival—I found the os uteri pretty well dilated, and the membranes fairly distended, but the head placed quite to the right, and still so high that the particulars of the presentation could not be verified. Towards the right, partly in front, and partly to the side of membranes, the placenta could be felt. The flooding had ceased. The woman did not recognize any one, and answered incoherently. The pulse, but little accelerated, and at first weak, became somewhat fuller soon after my arrival. The skin perspired moderately. During the afternoon, one single pain had been felt. From time to time the membranes grew a little more tense, but the woman made no complaint; she only appeared

to feel rather hot. She was placed on her left side—that opposed to the uterine tumour. She kept pretty quiet in this posture, appeared to sleep tranquilly, and after a time awoke a trifle more conscious. Soon, however, she relapsed into her doze. A few slight twitchings of the arms had been observed meanwhile. At ten o'clock the messenger returned who had been sent for some ergot to the town, about six miles distant. At five minutes past ten, I gave half one of the ten-grain powders ordered. Almost immediately a labour came on; but, even before it was observed, the woman exclaimed, "The water!" The membranes were ruptured; the head had at once descended lower: it soon placed itself right in the middle of the pelvis, and came further down. Fifteen minutes after the first, the woman got another dose of ergot, of two and a half grains only (the midwife in attendance having mistakenly once more divided the half powder left); fresh labour-pains ensued, which, thirty-five minutes after ten, caused the face of the child to appear at the outlet. The entire body followed rapidly, and was immediately succeeded by a great gush of blood, welling out in two or three large waves. Within a few minutes more, the placenta, perfectly normal, came away; the funis was rather short.

The child, a middle-sized male, was some little time before he made himself heard. Only by degrees the woman's consciousness returned: she felt weary, and was much inclined to sleep. Soon after eleven o'clock she had recovered her senses, and was not a little surprised at what had happened. The uterus kept contracting satisfactorily; nothing unusual further occurred. The number of pains had been seven or eight in all. As a stimulant, about three tablespoonfuls of poor Sauterne wine had been consumed during the process.—*Brit. Med. Journal.*

RUPTURE OF THE ABDOMINAL PARIETES AND ISSUE OF A LIVING CHILD.

Dr. Geisseler relates the following extraordinary case:—A woman was found in a stable trodden under foot by a bull, and at the point of death. The horn of the animal had passed under the edge of the ribs in the right hypochondrium, and had torn the parietes in nearly a transverse direction as far as the left side. The intestines were torn and extruded, and the upper part of the uterus was carried clean away, with the exception of a portion on the right side, to which the placenta was still attached. The os uteri was closed. A full-timed, strong male child was in this way liberated uninjured from the womb, and screamed loudly. The funis was twisted several times round the neck, a piece of torn placenta remaining attached to it.—*Medical Times and Gazette.*

Canada Medical Journal.

MONTREAL, DECEMBER, 1867.

PROFESSIONAL REMUNERATION.

The *honorarium*, which medical men should receive for the exercise of their skill and professional knowledge, has, within the past few months, been greatly discussed by the Medical Journals of the mother country. Strange to say, there is no recognised tariff in Great Britain—the fees differing in England, Ireland, and Scotland, and even varying in different sections of these countries. As might be expected from this condition of things, when an account becomes disputed, there is no lack of medical men to attest its reasonableness, while an equal number can be obtained to swear quite the contrary. Unseemly as this may appear, it has been a circumstance of somewhat frequent occurrence of late—the last instance being the case of a Mr. Irving, Surgeon of Liverpool, who sued the executors of a wealthy estate for a long and disagreeable attendance upon its proprietor, and a brief attendance upon a niece's child—the amount sued for being £250. The patient first came under Mr. Irving's care for gleet and stricture, the prostate gland being greatly enlarged; he subsequently, on the 1st of January, 1864, applied for the cure of a virulent attack of gonorrhœa and chancre—the stricture being worse. From this time till his death, which took place on the 4th of March, 1865, Mr. Irving was constantly in attendance. During the attendance orchitis supervened, for which the scrotum was incised, retention of urine frequently took place, for which the catheter had to be employed—typhus fever showed itself on the 26th July, 1864, convulsions having occurred on the morning of the 24th, and on that day and night the patient was visited ten times by Mr. Irving. Finally softening of the brain occurred which eventually carried the patient off. Mr. Irving in his bill made the following his scale of charges: office consultations, 2s. 6d; giving an injection, 2s. 6d.; visit, 5s.; passing the catheter, 10s. 6d. Some of the most eminent medical men of Liverpool and vicinity came forward voluntarily, and attested under oath their belief in the reasonableness and moderation of the charges, which were less than they would expect under

similar circumstances, and the necessity which might often exist for a practitioner to visit a patient during a day and night as often as ten times. One who had been an assistant to Mr Spence of Edinburgh, now Professor of Surgery in the Edinburgh University, asserted that for passing a catheter, Mr. Spence never received less than two guineas, and very often as much as five guineas. On the other hand two medical men were produced on behalf of the defence, who reduced the bill to £80 9s. 6d., asserting that the fees were exorbitant, and that 2s. 6d. was an ample fee for passing a catheter, no matter how difficult. Judgment was however given for £190 9s. 6d. This decision has, as we before stated, caused a good deal of discussion, the leading journals of our profession having taken the matter up. The bad results of not having a settled scale of fees is ably argued by the London *Medical Times and Gazette*, which suggest that the British Medical Association, as the organ of British medicine, should act on this matter. The *Times and Gazette* says: "We think by such a work, well done, the Association would earn the gratitude of the whole profession. Of course the task would be neither easy nor light, and it would not be possible to draw up a table which could invariably and under all circumstances be applicable, but still a scale might be framed which would be of great value as a standard and guide of some weight and authority." *The Dublin Medical Press*, alluding to the same case, says, "We fear we must assume that according to the dictum of the two medical men who appeared for the defence, we are nothing better than rogues and extortionists; for we think that few Irish medical men, who can boast of any practice at all, would undertake an eight months' attendance on a man of property and the encountering daily every species of filth and offensiveness for a less sum than £250. The question resolves itself into what fee Dr. Irving's professional status entitled him to, and we think his status must be very low, indeed, if it be overstated in the remuneration which he demanded." Of course in Canada, such large fees are not often to be had, simply because men of ample means are not numerous, but for all that, we think that as a rule the profession in this country value their services at altogether too low a rate, and that much trouble and annoyance is frequently caused by the want of a uniform rate of charging. For instance, in city practice, at all events in Montreal, it is believed to be usual to charge $1 per visit: and should the attendance be a prolonged one, to make a slight deduction from the gross amount; but yet we know of many instences where first class families have not been charged anything like the above named rate, and even families where, as a rule, the yearly bill seldom corresponds to the amount of work done,—a year of great sickness being followed by a

small bill, and *vice versa*. This is all wrong. While it may be a small matter to the practitioner immediately concerned, it is of much moment to many others in the same place, who are more or less affected by this method of doing business. Again, we believe that our fees do not sufficiently vary, according to the financial position of the patient. For instance a person having an income of £400 a year, would, in all probability, be charged £5 for an accouchment and subsequent attendance; while another, whose receipts yearly are over £1000, pays no more. In Manchester, England, the local Medical Society has just revised the tariff of fees, dividing the patients into three classes, and taking the amount of rent paid, as the test of the class to which they belong. This, we think, is a very fair means of judging. At all events, we think that here, we have quite as much reason to alter and specify our fees as they have in England. Everthing has risen so much within the last few years, that it costs almost double as much per year to live now as then, and yet for all that, our fees have remained the same. We hope that wherever medical societies exist, the matter will be brought forward, and we should be happy to chronicle the results. Other professions adopt a uniform tariff, and we can see no reason why the medical profession should stand in its present anomalous position.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

A regular meeting of this society was held on the 24th of November. Dr. Hingston, vice-president, in the chair. After the transaction of routine business, including the election and proposing of new members, the following gentlemen were elected honorary and corresponding members of the society:—George D. Gibb, M.D., of London, England; Dr. William Frazer, Lecturer on Materia Medica at the Carmichael School of Medicine, Dublin; and Joseph Workman, M.D., Superintendent of the Toronto Lunatic Asylum. Dr. Hingston having vacated the chair, it was taken by Dr. R. P. Howard.

Dr. Hingston then gave a synopsis of a most valuable and interesting paper on the relations of the climate of Canada to life and health; and particularly its influence on Europeans resident here.

The synopsis occupied over an hour, and gave but a small outline of the interesting material contained in the very lengthy paper. A vote of thanks was unanimously carried to Dr. Hingston for his valuable contribution. A discussion then took place on some of the more important points that had been brought forward; after which, the probability of a visitation of cholera next spring was taken up. After brief remarks from

the members, the full discussion of the subject was adjourned till the next meeting of the society.

At a meeting of the members of the "Quebec Medical Society," held the 16th November, the following gentlemen were elected officers for the ensuing year:—President, O. P. Tessier; Vice-President, L. J. A. Simard; Librarian and Treasurer, J. B. Blanchet; Secretary, L. Catillier.

PRESENTATION TO DR. WORTHINGTON, OF SHERBROOKE.

We owe an apology to our friend, Dr. Worthington, of Sherbrooke, for not sooner taking note of an interesting event in the history of his professional life, which occurred on the 11th of September last. On that day he was presented with a handsome silver tea set, with salver, the gift of some four hundred of his patients and friends. The salver bears the following inscription:—"E. D. Worthington, M.D., from the people and medical men of Sherbrooke and adjoining townships." An address accompanied the testimonial, which was read by the Rev. Mr. Reid. It alluded in feeling terms to their sincere regard for him as a kind-hearted and skilful physician, and to his gratuitous services to the poor during the long term of his professional career. It concluded by wishing him continued prosperity and usefulness. Dr. Worthington replied in suitable terms. We would congratulate our friend upon this well-earned expression of public feeling, all the more grateful from the fact that such occurrences, so far as members of our profession are concerned, are few and far between.

Messrs Kenneth. Campbell & Co., forwarded to us some three months ago, a bottle of pure medicinal Cod Liver Oil manufactured by Hazard and Caswell of New York, and prepared from fresh Cod Livers, at Cape Cod, (Massachusetts), and Rock Island, (Rhode Island). Since its introduction into this city by Messrs. Campbell, we have employed it in several cases, and can therefore speak of its merits from experience. The results from its use are equal to the ordinary Cod Liver Oil of commerce, but it possesses the advantage of being in a great measure free from the smell, so objectionable, as a rule, to patients. Persons whose stomach will not bear the ordinary oil—will, we believe, from the results of two cases, be able to take and retain this oil; and to children, usually such bad patients for the administration of Cod Liver Oil, we believe that of Hazard and Caswell's manufacture will be found to be the most easily taken.

From Kenneth Campbell & Co., we have also received a box of their Nova Cough Lozenges, also a note giving us the prescription from which they are made. We have no doubt they will be found beneficial in ordinary cases of Catarrh so prevalent at certain seasons in this city.

We notice with much pleasure that Mr. Abraham Godfrey, a graduate of McGill College of last session, passed his examination for the double license of the Royal College of Physicians and Royal College of Surgeons of Edinburgh, on the 3rd November.

We have again to apologise for the late issue of the Journal. Two causes have prevented its earlier appearance—the first being the want of original matter—no original communications having reached us till after the middle of the month. This threw us into Christmas week, and brought the second cause into operation, viz., the large amount of work for *immediate* execution in the hands of our printer. We hope in future to be more regular, and would again ask our brethren to forward us literary aid.

MEDICAL NEWS.

One hundred and eight persons were knocked down and killed in London, by vans, drays, omnibuses, &c., &c., between the 1st of April and 4th of November of last year. — Dr. Hunter, formerly of Canada, but now of London, England, who was accused of having taken improper liberties with a female patient, while under the influence of chloroform, has been acquitted. Dr. Hunter's position as a "consumption doctor" and notorious quack, does not blind us to the fact that the charge was a trumped up one. — It is reported that the new and corrected edition of the "British Pharmacopœia" will be published early next year. — A *post mortem* was made on Lord Palmerston's body. The details have not been made public. The immediate cause of death was abscess of the kidney, and a diseased state of the bladder.

An obituary notice of the late Dr. Sewell of Ottawa, is unavoidably crowded out.

CANADA

MEDICAL JOURNAL.

ORIGINAL COMMUNICATIONS.

A Case of Idiopathic Peritonitis. By E. H. TRENHOLME, M.D., C.M., B.C.L., &c.

Michael Doughorey, labourer, aged 26, a native of Ireland, was taken ill at 1 p.m., on the 10th December. He complained of stoppage of the urine, and intense pain of the lower part of the abdomen, when I was called to see him at 3 p.m. of the same day. For some time past he had been working in a very exposed place, and often returned from his work with wet feet, and sometimes with wet clothes. On the day preceding his illness, he had partaken rather freely of strong drink, a thing very unusual with him, as he was of temperate habits, and had never been seriously ill before the present time. He says, the pain came on very suddenly at the time above mentioned, and continued unabated, although he had taken hot drinks, in hopes of obtaining relief. On examination, the abdomen was found slightly distended, the walls very tense and tender to the touch. There was marked tenderness over the region of the kidneys. Vomiting and the desire to defecate and urinate, but without the power to do so, were marked symptoms from the commencement. Ordered him hot turpentine epithems over the whole abdomen, till the surface was well reddened, and to be continued till relieved of pain; put him on grain doses of calomel and opium every three hours, and gradually lengthening the interval between the doses up to five hours, and to support him with cold fluid diet.

Monday, 10 a. m.--Much worse; passed a sleepless night, vomiting, pain and tension of the abdomen increased. The vomiting is not accompanied with much effort, and is more like regurgitation, and vomited matter consists chiefly of what has been swallowed. He has passed no urine for thirty-four hours. I passed a catheter and drew off about ℥ iij. The medicine had been taken regularly, but the man would not

remain in bed, nor allow the turpentine epithems to be applied as ordered. Medicine and epithems to be continued. Pulse 100. Continued to grow worse up to 8 p.m., when I saw him, in consultation, with Dr. Howard. Meatus urinarius shows some signs of a clap. In addition to the present treatment, was ordered the application of a dozen leeches to right iliac region, and tepid water injection. After the injection, there came away a small amount of fæces.

Tuesday.—Much the same as yesterday: passed a restless night, slept in his chair but a few moments at a time. Had a pretty free and natural passage of the bowels this evening. Passed a very little urine. Pulse 110. Increased the calomel to 2 grains, opium 1 gr., every 4 hours. 9 p. m.—Suffering much pain; cannot lie down. Reduced the calomel to 1 gr., which, with the 1 gr. opium was continued every 4 hours. Ordered beef-tea every 20 minutes, and a tea-spoonful of brandy in water. every hour, and a large bran poultice over whole abdomen, to be followed by turpentine epithems.

Wednesday.—Much easier this morning; slept a little during the night; walls of abdomen not so tense; passed about ℥ iij urine. During the day not so well, and at night bad as ever with the pains, &c. Vomiting returned. Ordered another poultice, but it gave no relief.

Thursday.—Bowels tympanitic and very tender. Drew off about 2 oz. urine. Pulse 130. Breathing laboured. Gave him 8 grains calomel, in addition to the other treatment, but it had no effect on him. Passed a very restless and sleepless night in his chair.

Friday.—Abdomen more distended, and countenance gives signs of intense suffering. Abdominal tenderness greatest over upper part of right lumbar region. Great depression of vital powers; hands and feet growing cold, and is covered with cold clammy perspiration. Pulse 130.

Saturday.—Much worse. Has agonizing spasms of abdominal walls. Pulse 140. Omitted the calomel and opium, and gave ¼ grains morphia every 5 hours. Vomiting continues; retains nothing on his stomach.

Sunday.—This morning at 5, after a violent attack of vomiting, his bowels opened, and had two free liquid dark coloured passages, which gave him great relief. At 9 a.m., was very weak but drowsy. Ordered him small quantities of beef-tea and brandy, alternately, every few minutes; but in place of this, they gave him bread and butter and steak to eat. Pulse, none in left wrist, and very small in right. Surface cold. 12 o'clock.—Is dull of hearing, has no pain; eyes set. Ordered the beef-tea and brandy to be given as directed. Had another fluid passage and also passed a little urine. At 5 p.m., had two more fluid motions, when vomiting returned and continued more or less, up to 1 a.m. Monday morning, when he died.

Post mortem, 36 *hours after death.*—After section of abdominal walls, about 1 gallon serous fluid, with shreds of lymph in it, was removed from the cavity. Small intestines coloured dark; bound together slightly by recent effusions of lymph, and contained small amount fluid fæces and air; stomach empty. Pyloric end of duodenum and upper part of jejunum very dark coloured, and coats thickened. The lower part of duodenum very friable. Colon and vermiform process not specially involved. Kidneys congested; right one much so. Congestion most marked between tubular and corticle portions. Bladder empty, muscular coat and lining membrane of the fundus—where covered by peritoneum—very much congested, a dark colour, and very friable. Lining membrane not much congested elsewhere. Liver congested and firm, also somewhat enlarged. Spleen congested.

HOSPITAL REPORTS.

Case of Fracture of the Ribs, with Wound of Lung. Reported by JOHN BELL, A.M.

On the 15th November, 1865, Thomas Frazer, a sailor, aged 57, of weather-beaten appearance, was admitted into the Montreal General Hospital, under care of Dr. McCallum.

In the early part of the preceding night, while intoxicated, he fell over one of the stone quays to the wooden wharf below. He says he alighted on his side on a pile of stones. He was immediately carried to his ship where he remained, *insomnis*, until removed to the Hospital.

Fracture of the ribs was at once diagnosed by Dr. Drake, House Surgeon, who ordered him to be placed in bed, as he suffered acutely from the slightest movement, on account of contused state of right shoulder and hip as well as from the more severe injury.

At the time of Dr. McCallum's visit, the extreme sensibility of the injured parts precluded a thorough examination, but it was nevertheless satisfactorily made out that the sixth and seventh ribs were broken about in a line with the origin of the *serratus magnus* muscle. The sixth somewhat anteriorly to the seventh, and both evidently fractured obliquely, from the ease with which they could be displaced, the amount of motion allowed, and from sensible snap with which they returned into place.

The subcutaneous cellular tissue for a considerable extent around the seat of the fractures was quite emphysematous, crepitating freely under pressure. After this had ceased to crackle under the bell of the stethos-

cope, two other sounds were heard; first, that friction of the opposed pleural surfaces, now in the incipient stage of inflammation, and secondly, a moist crackling, one from local pneumonia, caused by laceration of the lung tissue by the jagged ends of the ribs.

He is ordered calomel: gr. j, antimonii tartarizati gr. ¼ every third hour; to be cupped under right nipple, and to be put on milk diet. Tongue dry and furrowed; pulse 108 per minute.

16th.—His feverish state, the pain which he constantly suffers, and the great embarrassment in the respiration, prevented him from sleeping more than a few minutes at a time during the night. From his inability to cough large quantities of mucus accumulate in his bronchial tubes, and produce a most painful sense of titillation. What he does expectorate is thick and tenacious, somewhat puriform and intermingled with a few specks of blood. The right side is dull on percussion. Sibilant râles abound behind on the right side, and with them a valvular click is heard at each respiration. A gurgling sound is occasionally heard over the position of the injury. All of these may be indicative of an inflamed state of some of the smaller and larger bronchi, with accumulation of mucus.

Friction sound more of a rubbing character than it was yesterday, but it changed somewhat during the day. Tongue moist and pretty clean, tip quite red. Urine sherry coloured.

The injured side of his chest was confined (after Hannay's method) with pieces of strong adhesive plaster, passing from the medium line behind to the same in front, and imbricated on each other until the whole was covered.

17th.—Slept pretty well last night, but not long at a time. Does not feel so feverish; tongue not dry, but still covered with a dirty coat. Skin moist. Bowels open. Urine abundant, slightly reddish, with a diminution of chlorides, and containing a little urozanthin.

Pulse 80 per minute, full and forcible. Respirations 23 in the same time. Temperature in axilla, after allowing mercury full time to rise, 101.5 F. Observations taken each day at noon.

From the position and thickness of the plaster on his side, exact physical examination is prevented, but still the friction sound can be heard. It does not differ materially from that of yesterday. The patient now experiences no oppression or difficulty in breathing, the pain being altogether *latent*, so that he does not suffer except when he is compelled to cough or take a full inspiration. The irritation in his throat is less, and the expectoration is purulent in streaks, with a few specks of blood.

18th.—Patient slept somewhat soundly last night, and seems in every

way to be in a very favourable condition. All the secretions free. Face shews no febrile flush or fulness.

Pulse 72. Respirations 18. Temperature 100.4°.

A stripe of ecchymosis, of motled purpled yellow and green, three inches broad, has now appeared, extending from the fractures and in the same line with them, to the crest of the ilium. The impaction of the humerus between the wharf and his side was probably the cause of both these lesions.

19th.—Patient was restless, and coughed a good deal last night, until the administration of a Dover's powder; after which he slept almost continuously until morning. He now looks very well and has neither coughed nor expectorated much. The Dover's powder is ordered to be continued each night, for a short time.

Above and around the seat of injury the respiratory murmurs are healthy. Below it, both behind and in front, the friction sound continues of a harsh rubbing character. A gurgling sound is also heard, which is quite distinct from that produced by the peristaltic action of the colon.

Pulse 85. Respiration 21. Temperature 99.4°. Skin cool; tongue moist and pretty clean.

20th.—Rested well during the night. The calomel and tartar emetic powders have been given as directed up to the present time. As the patient's bowels are now very lose and his gums "touched," they are ordered to be discontinued.

His appetite is poor. He is still on milk diet.

Friction sound well marked on occultation, and can be slightly felt on palpation. The gurgling already mentioned continues in the anterior and posterior part of chest.

He can now sit up and walk about. Pulse 80. Respiration 20. Temperature 100.6°.

21st.—Bowels still loose. Friction sound not so loud as yesterday. Respiratory murmur pretty clear and audible, contrasting forcibly with the superficial rubbing sound. The ecchymosis has now changed to an intense purplish black.

Pulse 76. Respiration 21. Temperature 100.7°.

His countenance to-day is relieved of the anxious expression it has hitherto constantly worn; and, generally, he seems to be in a decidedly convalescent condition.

22nd.—Pulse 76. Respiration 20. Temperature 101°. To-day he walks about with much ease. Percussion dull over fractures, where the friction sound is still harsh and grating. Occasional sibilant and submucous râles, with small gurgling, are heard at posterior part of

right side: in some extent due, probably, to the hypostatic congestion of the back of the lung, and to accumulation of mucus in the bronchial tube, from the recumbent position which the patient has been compelled constantly to retain. Sputum not very abundant, but glassy and frothy.

23rd.—Pulse 68. Respiration 32. Temperature 100.4°. Friction sound still heard below the fractures, also a sonorous blowing sound from mucus in the larger bronchi. Bowels regular. Appetite improving. Has an annoying tickling sensation in his throat, for which he is ordered a sedative cough mixture.

24th.—Pulse 65. Respiration 21. Temperature 100.8°. On inspection of the chest, the front part of the right side, which should have been supported by the fractured ribs, is seen to be flatter than the corresponding region of the left, and on percussion is duller.

25th.—Pulse 76. Respiration 22. Temperature 100.7°. Friction sound not so loud and harsh as yesterday, and heard chiefly at end of respiration. Cough greatly relieved. Patient can walk about freely, although some stiffness of the shoulder joint remains. He is ordered still to remain in bed.

As the temperature has maintained the same range for several days, its height being more probably due to incorrectness of the thermometer than to any abnormal state of the patient, its observation is ordered to be discontinued, as no longer necessary.

December 8th.—Patient to have his clothes, and to be allowed to get up.

12th.—To-day were removed the strips of plaster which have kept their hold in a most efficient manner. Whether from the good quality of the plaster, which was spread on thick twilled canvas, or from the *very* slight play of the ribs, the strips did not "become loosened after a few hours," contrary to the experience of Dr. F. Hamilton in such cases.

Friction sound still heard, over the side, and lower part of front and back of right chest, of a rubbing or creaking character: due most probably to the rubbing and stretching of adhesions which will remain permanently. That at end of inspiration coarser than that at end of expiration. It is only at these periods of respiration that the sound can be heard distinctly. The cough is almost entirely gone.

He can now throw his arm round in a circle, although it is slightly painful to do so. His side was ordered to be painted with tr. iod. co.

13th.—Friction sound continues much the same, but he says the iodine application gave him considerable relief.

20th.—The friction sound can now no longer be heard, and the right side of his chest has resumed its normal fulness. On examining the ribs

a swelling is felt on the fourth and fifth in the axilla, and also on the fifth at the nipple, evidently *calli* from complete or partial fractures, or other lesions less severe. All the patient now complains of is a slight stiffness about the right shoulder and chest.

26th.—Discharged.

Case of Injury of the Hand. Under Dr. D. C. McCallum. Reported by Mr. Thos. D. Lang.

John Bremner, aged 41, a native of Scotland, farmer has always enjoyed good health, up to the 13th December, 1865, when, while at work putting some straw into a thrashing machine, got his right hand involved in the cylinder, crushing and lacerating the first phalanx of the thumb, all the phalanges of the index and middle fingers, the first two phalanges of the ring finger, and the soft parts of the little finger.

He was admitted into the Montreal General Hospital, in this state on the same day that the accident occurred.

The man's occupation being that of a farmer, Dr. McCallum considered it prudent to save as much of each finger as possible; he accordingly removed the first phalanx of the thumb; all the phalanges of the index and middle finger, and the first and second phalanges of the ring finger. By careful dressing the little finger was saved.

The patient made a rapid recovery, and on the 6th Jan., 1866, was able to leave the hospital with a very useful hand.

The frequency of accidents, caused by thrashing machines, renders the above brief case of more than ordinary interest, showing, as it does, the results of Conservative Surgery. It was all important, from the nature of the man's occupation, to have as useful a hand as possible—which result was obtained by the attempt at saving his little finger—which proved successful, and confining the amputations simply to the injured phalanges.

Operation for Perineal Section. By Dr. D. C. McCallum. Reported by Mr. James Hays.

Joseph Racicault, a native of Canada, aged 26, was admitted into the Montreal General Hospital, November 18th, 1865, under Dr. McCallum. Seven years ago he contracted a gonorrhœa and one small chancre, but had no bubo.

Three months before admission was employed on board a steam-boat,

and, one day, while ascending a ladder fell upon one of the steps, and inflicted a severe wound in his perineum.

For two weeks after the accident he was unable to pass a full stream of urine, and what was passed contained blood. He gradually got better until a week before entering the hospital, when he caught a severe cold, and was unable to pass any urine whatever for two days. When he presented himself at the hospital, Dr. Drake, the house surgeon, succeeded, with great difficulty, in passing a No. 1 catheter into the bladder, which was retained there. The parts were much swollen, but subsided in a few days, and then the stricture could be distinctly felt with the finger, in the membranous portion of the urethra.

It was considered a favourable case for an operation, and accordingly, on the 27th of Nov., "perineal section" was performed by Dr. McCallum.

After the operation a No. 8 catheter was secured in the bladder by means of pieces of tape and water dressing applied to the wound.

Nov. 29th.—Wound looking well, and patient easy.

Dec. 1st.—Catheter removed, and patient able to pass urine freely.

Dec. 4th.—Wound nearly healed, and No. 9 introduced quite easily. After this date a catheter was passed every third day till the 19th, when the patient was discharged from the hospital, with injunctions to return and have a catheter introduced once or twice a week.

Dec. 31st.—A No. 13 catheter passed without the least trouble.

Amputation of the Arm for Epithelioma. By DR. D. C. McCALLUM. Reported by MR. CHARLES E. HICKEY.

Thomas Laughlin, aged 41, farmer, was admitted to the Montreal General Hospital, on the 2nd of November, 1865, under the care of Dr. McCallum; was born in Canada, is of healthy parents, both having died of old age.

About sixteen years ago he had an attack of erysipelas on the left arm, on account of which he remained seventeen months in the Montreal General Hospital under the care of Dr. McDonald. It left a scar on the outer side of the arm, extending from below the elbow to the shoulder, resembling the scar of a burn, also left the arm rather stiff and atrophied.

On the second of last July, he fell from a horse, hurting this arm, and producing a small blister at the elbow on its outer side, which, bursting in a few days, formed a sore oval in shape having the appearance of an irritable ulcer. Kept increasing in size till its long diameter was five inches, and its short three inches. From it there was a very small dis-

charge thin and ichorous. Pain was acute and intense from the first, or from the time the blister was ruptured. The pain was not darting nor lancinating in character, but burning and confined to the sore.

It was diagnosed *epithelial cancer*, and on the 28th of Nov., 1865, the arm was amputated at its upper third. Cold water dressing was applied, and the wound healed mostly by first intention. The diagnosis was verified by the miscroscope.

The patient left the hospital on the 13th of January, 1866, the wound having nicely healed. He was well satisfied and apparently elated over his loss, for, in his own language, he would rather lose fifty arms than suffer so much pain again.

REVIEWS AND NOTICES OF BOOKS.

The use of the Laryngoscope in Diseases of the Throat, with an Appendix on Rhinoscopy. By MORELL MACKENZIE, M.D., M.R.C.P., Physician to the Dispensary for Diseases of the Throat. Philadelphia: Lindsay and Blakiston; Montreal: Dawson Brothers.

Among the many works which have been issued from the London press on the Laryngoscope, since its very general introduction, none perhaps is more complete, or contains a more comprehensive view of the entire subject, than this admirable work, of rather more than one hundred and fifty pages, by Dr. Mackenzie. The work is divided into eight chapters; the first, and by much the longest, is devoted to a history of the Laryngoscope, commencing with the attempt made in 1743 by Levret, the celebrated French accoucheur, to facilitate the application of ligatures to tumours of the throat, by means of a plate of polished metal, upon which the tumour was reflected. Beyond its use for this purpose, no further application of it was made; and from that date until 1807, when Dr. Bozzoni, of Frankfort-on-the-Maine, made a great sensation by the publication of a work entitled, "The Light Conductor, or description of a simple Apparatus for the Illumination of the Internal Cavities and spaces in the Living Animal Body," no progress was made. Notwithstanding the excitement its introduction caused, so great was the opposition it encountered, that it soon was forgotten. In 1849, Dr. Babington exhibited to the Hunterian Society of London an instrument which very closely resembled the Laryngoscope of the present day, one of the differences being that the illuminating mirror was a common hand look-

ing-glass, and the light used was natural and not artificial. This clearly proves the claim of Dr. Babington, as being truly the inventor of the Laryngoscope. The various improvements that were made from this time up to 1837, when the well-known experiments by Professor Czermack, of Pesth, were made, are briefly alluded to. To his untiring industry is beyond a doubt due the present wonderful results which the Laryngoscope, as remodelled by him, has produced. The second chapter contains a good description of the various parts of the instrument; and the third chapter gives the principles of the art, with clear and concise directions how to use the instrument. This chapter is exceedingly well written, and contains advice which should be carefully read by all before attempting the application of the Laryngoscope. He says, "Beginners, in their anxiety to get a good view, often give rise to faucal irritation, by keeping the mirror too long in the patient's mouth: the same condition is often caused by moving the mirror too much about at the back of the throat after its introduction. The practitioner should recollect that when an act of retching has once taken place, it is afterwards often impossible to get a good view of the larynx at the same sitting. Moreover, the act of retching always causes considerable temporary congestion of the laryngeal mucus membrane, and this is apt to lead the inexperienced to very erroneous conclusions." Dr. Mackenzie seems to think that, unless by the clumsiness of the practitioner, most persons could be examined at the first sitting without difficulty, and recommends that, for the purpose of gaining the patient's confidence, the mirror be introduced several times, leaving it at the back of the palate only for a few seconds, no attempt being made to see anything. He however admits having met with patients with such an irritable condition of the fauces as to render the application of the instrument almost an impossibility. Bromide of potassium and ammonium have been recommended in such cases, but in his experience without benefit, and recommends as the best treatment in such cases to get the patient to suck small pieces of ice for ten minutes previous to the use of the Laryngoscope.

Chapter four describes the appearances of the healthy larynx, and chapter five, the various accessories of Laryngoscopy, such as the examination of your own larynx, the demonstration of a patient's larynx, to others, &c., &c.

The next (6th) chapter contains practical remarks on the application of remedies by means of the Laryngoscope. Our author says, "For applying solutions to the larynx, squirrels or camel's hair pencil cut square at the ends and firmly attached to alluminum wire, bent at a proper angle, will be found the best. * * * * *

I shall merely remark that among the remedies I have found most efficacious, are solutions of nitrate of silver, perchloride of iron, sulphate of copper, sulphate of zinc, carbolic acid, and iodine. Glycerine will be found a useful solvent for most of these agents." Dr. Mackenzie states he does not approve of injecting fluids into the laryngeal cavity, one of the objections against injections being that they cause a great deal of spasm, and that it is more difficult to restrain the amount of the application or limit it to certain spots.

The remaining chapters are devoted to describing various pathological changes (illustrated by cases) which the Laryngoscope has revealed, such as warts on the vocal cords, &c., &c.

We shall merely again repeat our conviction, formed after a careful perusal of the work, that it contains information concerning the use of the Laryngoscope, which should be attentively studied by every practitioner of medicine, and we therefore recommend it to the notice of our readers.

A few pages are added as an appendix on Rhinoscopy, or the examining the posterior nares by placing a mirror at the back of the throat with its reflected surface directed obliquely upwards. It is however exceedingly difficult to perform, and has not yet been much put in use.

On Wakefulness; with an Introductory Chapter on the Physiology of Sleep. By WILLIAM A. HAMMOND, M.D., late Surgeon General of the United States Army. Philadelphia, J. B. Lippincott & Co., 1866. Montreal, Dawson Brothers.

Aside from the title of this work, the high position occupied by its author, in the United States Army, lead us to examine this little book with more than ordinary interest. Many of the facts contained in it were first published in the form of a paper "on Sleep and Insomnia," in the New York Medical Journal, and attracted considerable attention. At the suggestion of some of his friends, the paper was much enlarged and re-written, and is now published in a most acceptable volume of about 100 pages.

The physiology of sleep is a question so full of interest to the medical practitioner, and so many opposite views are entertained concerning it, that we have perused with great pleasure, and we believe with much profit, its very able introductory chapter. Of all our organs the brain is the only one, which has not its period of rest save during the time of sleep. Even the heart and lungs, those apparently ceaseless organs, have their periods of repose. Dr. Hammond says, "After the contraction and

dilatation of the auricles and ventricles of the heart, there is an interval during which the organ is at rest. This amounts to one-fourth the time requisite to make one pulsation and begin another. During six hours of the twenty-four, the heart is therefore in a state of complete repose. If we divide the respiratory act into three equal parts, one will be occupied in inspiration, one in expiration, and the other by a period of quiescence. During eight hours, therefore, of the day the lungs are inactive. And of the voluntary muscles, none, even during our most untiring waking moments, are kept in continued action." As might be expected from this ceaseless activity of the brain, every thought being formed at the expense of nervous tissue—that organ cannot long carry on its healthy function—without having repose. Hence after a certain period, this organ needs rests, and it is this want, that is the exciting cause of natural and periodic sleep; and to such an extent has the brain often been reduced, and so greatly felt the need of rest, that not unfrequently it is beyond the power of the will to evade it. Thus our author says, "I have frequently seen soldiers sleep on horseback during night marches, and have often thus slept myself. Sentinels on posts of danger often cannot resist this influence. To punish a man with death, therefore, for yielding to an inexorable law of his being, is not the least of the barbarous customs which are still in force in civilized armies." As might be anticipated, therefore, no punishment so cruel could be invented, as to sentence a man to death by depriving him of sleep,—yet, that such a punishment has been enforced, the following case clearly proves. Dr. Hammond quotes from Dr. Forbes Winslow, the author of an able treatise on diseases of the brain:—

"A Chinese merchant had been convicted of murdering his wife, and was sentenced to die by being deprived of sleep. This painful mode of death was carried into effect under the following circumstances: The condemned was placed in prison under the care of three of the police guard, who relieved each other every alternate hour, and who prevented the prisoner falling asleep night or day. He thus lived nineteen days without enjoying any sleep. At the commencement of the eighth day his sufferings were so intense that he implored the authorities to grant him the blessed opportunity of being strangled, guillotined, burned to death, drowned, garotted, shot, quartered, blown up with gunpowder, or put to death in any conceivable way their humanity or ferocity could invent. This will give a slight idea of the horrors of death from want of sleep."

The immediate cause of sleep is the question, however, which has given rise to a great amount of discussion, and it is therefore

interesting to notice the theory advanced and supported by our author. Perhaps the most generally received opinion is that the brain is in a state of approaching congestion. Drs. Carpenter, Dickson, and Sir Henry Holland, as well as others, assert that "a degree of pressure is essential to perfect and uniform sleep." Dr. Hammond, however, objects very strongly to this theory, and attempts to prove by experiments, that natural sleep proceeds from a cause, the exactly opposite of that held by the well known names mentioned above.

"That stupor may be produced by pressure upon the brain admits of no doubt. It is familiarly known to physicians, surgeons, and physiologists; the two former meet with instances due to pathological causes every day, and the latter bring it on at will in their laboratories. But this form of coma and sleep are by no means identical. On the contrary, the only point of resemblance between the two consiststs in the fact that both are accompanied by a loss of volition. It is true, we may often arrive at a correct idea of a physiological process from determining the causes and phenomena of its pathological variations, but such a course is always liable to lead to great errors, and should be conducted with every possible precaution. In the matter under consideration it is especially of doubtful propriety, for the reason stated, that coma is not to be regarded as a modification of sleep, but as a distinct morbid condition. Sir T. C. Morgan, in alluding to the fact that sleep has been ascribed to a congested state of the brain, for the reason that in apoplectic stupor the blood-vessels of that organ are abnormally distended, objects to the theory, on the ground that it assimilates a dangerous malady to a natural and beneficial process. He states (what was true at the time he wrote) that the condition of the circulation through the brain, during sleep, is wholly unknown.

"It is important to understand clearly the difference between stupor and sleep, and it is very certain that the distinction is not always made by physicians; yet the causes of the two conditions have almost nothing in common, and the phenomena of each are even more distinct.

"1. In the first place, stupor never occurs in the healthy individual, while sleep is a necessity of life.

"2. It is easy to awaken a person from sleep, while it is often impossible to arouse him from stupor.

"3. In sleep the mind is active, in stupor it is as it were dead."

"4. Pressure upon the brain, intense congestion of its vessels, the circulation of poisoned blood through its substance cause stupor, but do not induce sleep. For the production of the latter condition a diminished supply of blood to the brain, as will be fully shown hereafter, is necessary.

"Perhaps no one agent so distinctly points out the difference between sleep and stupor as opium and its several preparations. A small dose of this medicine acting as a stimulant increases the activity of the cerebral circulation, and excites a corresponding increase in the rapidity and brilliancy of our thoughts. A larger dose lessens the amount of blood in the brain, and induces sleep. A very large dose sometimes diminishes the power of the whole nervous system, lessens the activity of the respiratory function, and hence allows blood which has not been properly subjected to the influence of the oxygen of the atmosphere to circulate through the vessels of the brain. There is nothing in the opium itself which produces excitement, sleep, or stupor, by any direct action upon the brain. All its effects are due to its influence on the heart and blood-vessels, through the medium, however, of the nervous system."

Dr. Hammond performed experiments to prove the above. He took three dogs and placed them under the influence of chloroform, and from each removed a portion of the upper surface of the skull an inch square. The dura mater was also removed. Three hours after when the effect of the anesthetic had passed away, he gave one dog, one-fourth of a grain of opium, the next dog one grain, and the third dog, two grains, the brain of each being in a natural condition :—

"At first the circulation of the blood in the brain was rendered more active, and the respiration became more hurried. The blood-vessels, as seen through the openings in the skulls, were fuller and redder than before the opium was given, and the brain of each animal rose through the hole in the cranium. Very soon, however, the uniformity which prevailed in these respects was destroyed. In number one the vessels remained moderately distended and florid for almost an hour, and then the brain slowly regained its ordinary appearance. In number two the active congestion passed off in less than half an hour, and was succeeded by a condition of very decided shrinking, the surface of the brain having fallen below the surface of the skull, and become pale. As these changes supervened, the animal gradually sank into a sound sleep, from which it could easily be awakened. In number three the surface of the brain became dark, almost black, from the circulation of blood containing a superabundance of carbon, and owing to diminished action of the heart and vessels it sank below the level of the opening, showing, therefore, a diminished amount of blood in its tissue. At the same time the number of respirations per minute fell from 26 to 14, and they were much weaker than before. A condition of complete stupor was also induced from which the animal could not be aroused. It persisted for two hours.

During its continuance, sensation of all kind was abolished, and the power of motion was altogether lost.

"It might be supposed that the conditions present in numbers two and three differed only in degree. That this was not the case is shown by the following experiment:

"*Experiment.*—To the dogs two and three I administered on the following day, as before, one and two grains of opium respectively. As soon as the effects began to be manifested upon the condition of the brain, I opened the trachea of each, and, inserting the nozzle of a bellows, began the process of artificial respiration. In both dogs the congestion of the blood-vessels of the brain disappeared. The brain became collapsed, and the animals fell into a sound sleep, from which they were easily awakened. If the action of the bellows was stopped, and the animals were left to their own respiratory efforts, no change ensued in number two, but in number three the surface of the brain became dark, and stupor resulted. In order to be perfectly assured upon the subject, I proceeded as follows with another dog:—

"*Experiment.*—The animal was trephined as was the others, and five grains of opium given. At the same time the trachea was opened, and the process of artificial respiration instituted. The brain became slightly congested, then collapsed, and sleep ensued. The sleep was sound, but the animal was easily awakened by tickling its ear. After I had continued the process for an hour and a quarter, I removed the nozzle of the bellows, and allowed the animal to breathe for itself. Immediately the vessels of the brain were filled with black blood, and the surface of the brain assumed a very dark appearance. The dog could no longer be aroused, and died one hour and a quarter after the process was stopped."

Our author then enunciates his theory which, in a modified form, has been brought forward before by Blumenbach—but not received with much favour. He says: "I believe that sleep is directly caused by the circulation of a less quantity of blood through the cerebral tissues than traverses them while awake." He then states an experiment made by Dr. Fleeming of Queen's College, Cork, who tried the effect of compressing the carotids on the functions of the brain—the result being a gradual insensibility which continued so long as the compression was kept up. The interesting volume by Durham on the Physiology of Sleep is alluded to. Dr. Hammond stating that previous to its publication he was engaged experimenting in the same direction—but yields to Mr. Durham the priority, and states that his experiments were not carried as far as those of Mr. Durham's.

"In 1854 a man came under my observation who had, through a

frightful railroad accident, lost about eighteen square inches of his skull. There was thus a fissure of his cranium three inches wide and six inches long. The lost portion consisted of a great part of the left parietal, and part of the frontal, occipital, and right parietal bones. The man, who was employed as a wood chopper, was subject to severe and frequent epileptic fits, during which I often attended him. In the course of my observations, I soon became acquainted with the fact that, at the beginning of the comatose condition which succeeded the fits, there was invariably an elevation of that portion of the scalp covering the deficiency in the cranium. As the stupor passed away, and sleep from which he could easily be aroused ensued, the scalp gradually became depressed. When the man was awake, the region of scalp in question was always nearly on a level with the upper surface of the cranial bones. I also noticed on several occasions that during natural sleep the fissure was deeper, and that in the instant of awaking, the scalp covering it rose to a much higher level.

"After my attention was thus drawn to this subject, I observed that in young infants the portion of scalp covering the anterior fontanelle was always depressed during sleep, and elevated during wakefulness."

Various other experiments were performed on dogs—portions of the skull being removed, and ether and chloroform being administered. With the ether the brain sank below the inner surface of the skull, and the vessels which could be perceived contained dark blood—as the anesthetic passed off the circulation of the brain became more active, and its volume increased. With chloroform the effect was different—there was no sinking of the brain substance—on the contrary, it protruded. "Not only was unoxygenated blood circulating to a great extent through the brain, but there was very decided congestion." As another illustration, Dr. Hammond alludes to the soporific effect heat has, and ascribes it to the amount of blood which flows during high temperature to the surface of the body, consequently diminishing the amount going to the brain. Excessive loss of blood also produces sleep, says Dr. H., which is easily accounted for by the theory he advances as the immediate cause of sleep—but which is difficult he says to explain upon any other hypothesis.

In many ways the theory advanced by Dr. Hammond is a very plausable one—and while we must admit that he has brought forward much to support his theory, we still feel that his experiments are not all quite satisfactory to our own mind. However much credit is due him for the able manner in which he has handled his subject—and eventually much good will result from its publication.

We have devoted so much space to the first portion of the volume, that but little is left us in which to notice the latter part. Wakefulness is a complaint which every physician is constantly brought face to face and often the treatment adopted—in the majority of cases, opium or its kindred preparations, gives but little benefit. We generally find this complaint in persons, whose brains have been overtaxed by mental exertion. Mental effort long continued, demands an active brain circulation—hence the cerebral vessels have been overdistended, and Dr. Hammond, asserts this over-distention causes the vessels to lose in a great measure their contractile power, hence a larger amount of blood is circulating in an overtaxed brain than was normal. To such patients he recommends a total cessation from active mental exertion—sleep to be sought for, not in the recumbent posture, but in an easy chair in an upright position, stimulants in the shape of whiskey, coffee, &c., and above all the bromide of potassium in doses of ten to thirty grains. From experiments our author states that this salt invariably lessens the quantity of blood circulating within the cranium. We wish that it were possible for this little work to find its way into the hands of every one of our subscribers. Besides helping to pass a couple of hours pleasantly and profitably, (for it is a very interesting volume,) it contains so much of practical value concerning cases constantly coming under observation, which have often been treated unsatisfactorily, that we believe the practitioner would certainly profit much by its perusal.

PERISCOPIC DEPARTMENT.

Surgery.

ON AMPUTATION AT THE HIP-JOINT.

By John H. Packard, M. D., one of the Surgeons to the Episcopal Hospital, Philadelphia.

The remarks which I have to offer to the readers of the Journal are based upon a case which occurred at the U. S. A. Hospital at Beverly, N. J., last winter. By the courtesy of Dr. Clinton Wagner, U. S. A., the surgeon in charge, under whose orders I was acting as Consulting Surgeon to the Hospital, the manual procedure was entrusted to me; but, as Dr. W. justly remarks in his (unpublished) Report of Surgical Operations, the successful result was mainly due to the surgical skill and the kind and unremitting attention of Dr. J. C. Morton, Executive Officer of the Hospital.

The patient was a private in the 11th Reg't Maine Volunteers, aged 19, and was brought to Beverly, August 22d, 1864, by steamer, having been wounded at Deep Bottom, Va., on the 16th. The ball had passed through the head of the tibia from before backward.

Sept. 12th, secondary hemorrhage having occurred, chloroform was given, and after a careful examination it was thought proper to amputate, which operation was performed through the lower third of the thigh, by the circular method, No untoward sympton was observed until October 17th, when bleeding was again set up, and the femoral artery was cut down upon and tied in Scarpa's space. The ligature came away in ten days.

November 5th, the end of the femur protruding through the retracted soft parts, about four inches of the bone were removed by means of the chain-saw. Shortly after this, the stump became enormously swollen and painful, and abscesses formed here and there in it.

January 19th, 1865, the bone was exposed, and found to be greatly enlarged, and in a state of necrosis, as high up as the trochanters. The patient being already under chloroform, the femoral artery was at once exposed and tied in the groin, and the disarticulation of the hip performed by antero-posterior flaps. Some slight difficulty was experienced in controlling the artery accompanying the sciatic nerve, but the quantity of blood lost in the operation was not large. Extreme depression was exhibited, the patient being of necessity kept on the amputating table for two or three days, lest the effort at removal should prove fatal. Large quantities of stimulants and concentrated food were administered, and the surface temperature artificially maintained.

January 27th, bleeding again occurred, and the external iliac artery was tied. The ligature came away in twenty-one days.

February 19th, two days afterwards, the lower end of the divided artery poured forth blood furiously, and was only controlled with great difficulty by direct pressure, which was kept up for about two weeks.

After this, recovery progressed steadily, and by the end of March the man was well. In May, on the breaking up of the Beverly Hospital, he was transferred to that at Whitehall, and in June he was sent to his home in Maine.

Probably most of the readers of the Journal are acquainted with the case lately published by Dr. Van Buren, of New York, in his valuable "Contributions to Practical Surgery." Here the patient's condition was much more favourable. The first operation was done for disease of the femur, of twenty years' standing; the second for return of the disease,

about two years after. No untoward accident in the shape of hemorrhage occurred. Death took place five years later, from renewal of the disease in the pelvic bones.

Dr. Van Buren refers to three other cases in which amputation at the hip was successfully done after previous removal of the same limb above the knee: one by Sir A. Cooper in 1824, one by Mr. Mayo in 1841, and one by Mr. Sands Cox in 1844.

Another, making six, has been published by Fayrer, of Calcutta. I met with the account in a recent number of the British Medical Journal; the exact reference has escaped me. It is so interesting that an apology is hardly necessary for reproducing it here. "The operation was performed when the patient was very low, suffering from clear indications of blood contamination, the result of a diseased condition of the medulla, which is unfortunately frequent in India, after section of the long bones, and the cause of many unsuccessful amputations. The operation was performed and the recovery occurred at a very hot season of the year, the thermometer ranging from 86° to 104°. Cholera and other diseases were very prevalent at the time.

"On April 10th, 1864, a native boy, 16 years old, was thrown from a horse; at the inner side of his knee the soft parts were severely injured, but the joint was, apparently, unhurt; on the 12th it was found that the joint was opened. The limb was then removed at the lower part of the thigh. After the amputation, fever and extensive necrosis of the bone followed, so that, as a chance of saving life, the limb was removed at the hip-joint. The knife was entered a little above and in front of the great trochanter, and emerged at the root of the scrotum. The flap being raised, the femoral artery was tied before the posterior flap was cut. On dividing the bone at the great trochanter drops of pus oozed out of its cancellated tissue; Dr. Fayrer thereupon seized it with the lion-forceps and dissected it out without loss of time. The acetabulum was healthy. All bleeding points, venous and arterial, were tied. The loss of blood was very small—less than eight ounces. His pulse, which was over 150 when the operation was commenced, was very little weaker after it was over. Stimulants were given and hot bottles applied. After the operation the patient immediately improved, and eventually recovered. The last report of him is as follows: 'He goes to work regularly as a tailor, and is in robust health. He uses crutches, and gets over the ground rapidly; is getting fat, and is much grown in height as well as circumference since his accident. He was admitted on April 10th, 1864; thigh amputated on April 12th; hip amputated on April 24th; perfectly cured on July 13th, 1864—just one hundred days from the operation.'"

Dr. Gross, in speaking of this subject, says: "Of seven cases of this kind, in the hands of Astley Cooper, Textor, Mayo, Cox, Syme, Bradbury and Van Buren, all were successful. In an instance, in the practice of Mr. Guthrie, where the operation was performed on account of gangrene and hemorrhage, after amputation of the thigh for a gun-shot wound, the result was fatal."*

Four of these cases, those, namely, of Textor, Syme, Bradbury, and Guthrie, I know of through this quotation only; but they bring the whole number of cases up to *ten*, with only one fatal issue. From them it seems to me that some valuable hints may be gained. In two of them, my own and Fayrer's, the circumstances were most unpromising; in the former, the great natural courage of the patient, and the untiring assiduity with which he was watched over by Dr. Morton, carried him through the fearful experience which has been detailed. I know of no parallel case on record.† Disarticulation of the hips is, both to the patient and to the operator, one of the most formidable procedures in surgery, whether we look upon it in its immediate surroundings or in the light of its statistics. The reason does not, however, clearly appear why so many of these cases should turn out badly. Sédillot says: "Its dangers are due to the proximity to the trunk, the extent of the wound, the mass of flesh divided, the difficulty of obtaining union, and the nervous shock arising from the loss of a member

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* System of Surgery, vol. ii., p. 1046. (3d edition.)

† I am tempted to quote here a curious passage, which I met with a few days since in a lecture delivered by Mr. (afterwards Sir) Charles Bell, at the school in Great Windmill street, London, in 1824. He says:

"The mania for amputation at the hip-joint, which has of late years prevailed, I have seen finely exhibited in an individual, who, when the subject was mentioned, actually tore his hair, and exhibited the appearance of the deepest distress; one might have supposed that some of his dearest friends had fallen sacrifices to this operation; but no, the feeling was excited by his recollections being awakened, by the sight of a caries thigh bone, of an opportunity of operating which he had lost,"

In a foot-note Mr. Bell adds:

"A friend, on reading this, reminded me that he had been present at this singular exhibition of professional zeal, and states, what I had forgotten, that the enthusiast, in alluding to the particular instance in which he might have performed the operation, told us 'that as the child had previously lost the greater part of the limb by amputation for disease of the lower part of thigh-bone, there would have been little danger from the shock of separating such a mass as the quarter of the body, I should have only,' said he, 'had to pick out part of the bone from the socket; and thus I should probably not only have been the first of the few whose patients have survived this operation, but have been even the first to have performed it.'"

representing nearly one-fourth of the entire mass of the body ; which shock is so great that the patients often fall into a complete collapse, and die without any assignable cause." *

On the other hand, Erichsen says: "In amputation at the hip-joint the great danger to be apprehended is excessive hemorrhage, the incisions being made so high up that no tourniquet can be applied, nor pressure of the groin trusted to."†

Dr. Gross says that the great risk which attends this operation "is due to the loss of blood, suppuration, erysipelas, and pyæmia."‡

It would take up too much space to adduce other opinions ; those quoted embrace the views of leading writers of the present day in this country, England and France. Some of the sources of danger mentioned may be set aside, as not especially belonging to amputation at the hip.

Pyæmia, erysipelas and excessive suppuration may ensue upon much slighter operations. Hemorrhage may be altogether prevented by compressing the abdominal aorta, either by means of a large clamp tourniquet or by the fingers of assistants.

Ovariotomy, herniotomy, the Cæsarean section, all these show a larger proportion of successful results, and yet they would at first sight seem to involve even graver risk than the disarticulation of the hip. Against the exposure of the large wound-surface in the latter, we have to set off the opening of the peritoneal cavity, so often necessary even to a wide extent in the other operations mentioned,

Probably the true cause of the mortality in coxo-femoral amputation is to be found in the great mass of living tissue removed, and the shock thereby involved ; an idea which is supported not only by the fact that the statistics of amputation of the thigh in its upper third are nearly as unfavourable, but also by the far better results attending the operation when the previous removal of the thigh has done away with the circumstance alluded to.

If now we look into the subject of the ordinary operation of amputation at the hip-joint, we shall find in the first place that the greater proportion of successful cases have been those of disease ; and that the patient's chances of benefit are increased in traumatic cases by delaying the operative interference as long as possible.§

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* Traité de Médecine Opératoire, etc., tome i., p. 157. (Paris, 1853.)

† Science and Art of Surgery, p. 48. (London, 1861.)

‡ Op. cit., p. 1043.

§ Gross, op. cit, p. 1046. Legouest, quoted in "Longmore on Gun-sho

To quote the experience of American surgeons only. I have been able to collect eight cases of successful amputation at the hip-joint, but one of which was for injury. This was one done by Dr. Edward Shippen, of this city, while in the army; it was performed for a gun shot wound of the femur, received six hours previously. The patient was subjected, a month afterwards, to the horrors of a Richmond prison: and yet his recovery was perfect.

Mott operated for disease following a badly united fracture; Duffee for coxalgia; Gross for deformity after a burn; Pancoast once for osteo-sarcoma, and once for some other disease to me unknown; Warren for osteo-sarcoma: May for caries of the upper part of the femur.*

Contrasting this list with those so much more familiar, (for instance, Legouest's, of thirty primary operations, all ending fatally,) we can not but regard the prognosis in cases of disease as far more favourable than in cases of injury. The opposite opinion prevailed until set aside, by experience. Dr. Pancoast, in his "Operative Surgery," published in 1844, says: "It may be important, however, to observe that nearly all the successful cases have been those in which the operation was practiced for traumatic injuries, and almost immediately after their infliction; while the greater number of fatal results have been consequent to the operation on subjects previously exhausted to more or less extent by disease." I have no doubt that this eminent surgeon would alter this statement were he to write at present on the subject, and mention his view, as expressed, in order to show by how high authority it was indorsed.

If, then, we consider the cases in which the surgeon may be called upon to undertake the coxo-femoral disarticulation, we find them divisible into four classes, according to the degree of probability of success.

(1.) Those in which the same thigh has been previously amputated for injury or disease.

(2.) Those of chronic disease. It would scarcely be fair to place cases of hip-joint disease in this class, although the first successful case in this city (Philadelphia) was of this character. It so often happens that the

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Wounds," p. 115. (The principle as laid down by Legouest was confirmed by a Committee of the *Société de Chirurgie* of Paris, in 1860.)

Baudens puts this very forcibly: "Let us remember that, while the disarticulation of the knee should be done at once, that of the hip seems not to succeed (paraît ne pouvoir réussir) unless delayed some time after the receipt of the wound." La Guerre de Crimée, p. 132.

* I have been told, but am inclined to doubt the story, that amputation at the hip-joint was twice performed with success by rebel surgeons, during the late war, for gun-shot injuries.

acetabulum is seriously involved, that in many cases no operation could be of benefit.

(3.) Those in which an attempt has been made to save the limb after injury, and this operation becomes the only hope of the patient.

(4.) Those in which the desperate character of an injury recently inflicted renders death inevitable, unless this slender chance is afforded.

Even in the most favourable cases of the first of the above mentioned classes, amputation at the hip-joint is not to be lightly undertaken. I do not even consider it, as asserted by some writers, one of the easier amputations to perform. The necessity should be stringent, the weighing of the chances careful, the decision conscientiously arrived at. But it does seem to me that the degree of success attained in the recorded cases is such as to make it the imperative duty of the surgeon to perform the operation under the circumstances indicated. In other words, it is not a matter of choice for him whether he will seek to exhibit his prowess with the knife or avoid the risk of failure. He is not only justifiable in operating, but he would be unjustifiable in not doing so.

Should the result be unfavourable, he may, it is true, have painful doubts as to the propriety of the course he was led according to his best judgment to adopt. Probably all honest and conscientious surgeons have known what it is to be so troubled—some, from their mental peculiarities, more than others. And such doubts would be more likely to arise when operative interference had been resorted to than when it had been decided against. Still, this is one of the elements of the responsibility assumed by the surgeon, and can not be evaded.

Before concluding these remarks, it may be proper to observe that, in regard to all operations, a larger proportion of the successes are apt to be placed on record than of the failures. And such may be the case with amputations of the hip after previous removal of the same thigh at a lower point. But when we consider the very extensive discussion of the general subject of coxo-femoral disarticulation, and the fact that an operation of such magnitude is not apt to be confined to the knowledge of a few persons only, we may fairly suppose that the known cases of the kind just spoken of afford at least as correct a basis for the estimate of a patient's chances as we have for our guidance in regard to any other surgical procedure.—*New York Medical Journal.*

CANCER OF THE PYLORUS.

A few weeks ago I was called to see a man, 49 years of age, who was suffering from what was supposed to be dyspepsia for the last twenty-

five years, but more severely during the past year. Last fall he fractured his leg, and the confinement aggravated his dyspepsia. He had been under the care of different physicians, but they failed to give him any relief. I thought, from the history of the case, that it was an aggravated case of dyspepsia, and might be relieved by simple treatment and attention to diet. He vomited nearly everything—it would stay down about half an hour, but would then be ejected, and as a consequence he was much emaciated. He said he also had a feeling that nothing passed through him; he used injections, but they only relieved the lower bowels. I gave him bismuth, and milk and lime water, and also a pill composed of blue mass, ext. colocynth, co. and ext. belladon, to relieve the pain. The next day the stools were blackened, which seemed to prove that the bismuth had passed through. He grew worse, and I examined his abdomen, and found a tumor near the umbilicus, which made the case more grave than I first thought it. Prof. Wiltenberger was then called in consultation, and we agreed that nothing could be done but give relief, as the tumour was probably carcinomatous. He had had vomiting of blood, which is often connected with cancer of the stomach. He died a day or two ago, and here is his stomach. You see here a scirrhus tumour occupying the pyloric orifice and allowing little if any matter to pass. The small intestines were congested, which nearly always occurs in persons who die of starvation, as this man did. The liver, spleen, and pancreas appeared to be healthy. His case has been one of gradual starvation. A person will live longer with pyloric cancer than cardiac, for the former will allow some small portion to be absorbed before it is ejected, while the latter will allow nothing to enter the stomach.—*Med. Clinic of Prof. McSherry, in Phil. Med. Reporter.*

DESTRUCTION OF THE NOSE AND LIPS: NARROWING OF THE OPENING OF THE MOUTH BY CONTRACTED CICATRICES: SUCCESSFUL OPERATION.

The following remarkable case occurred in the practice of Professor von Balassa of Pesth. A lad, aged 16, named Karl Szatmary, of pale cachectic appearance, came into the hospital there with a terrible disfigurement of his face. This had been produced a year previously, as far as could be ascertained, by some febrile disease (perhaps pernicious intermittent or typhus); after which the nose, lips, external ear, and a part of the toes, had become gangrenous. The process of cicatrisation which followed this extensive destruction, had left in the place of the nose and lips an uneven cicatrix, firmly adherent to the suface of the jawbone, and

narrowing the nostrils to a small longitudinal cleft, and the mouth to a roundish hole of the size of a bean, of which two-thirds were occupied by the middle incisor teeth, so that there remained only an opening of the size of a crowquill, with rigid walls. Respiration and nutrition were necessarily greatly impeded ; fluids only could be administered in scanty quantity. Speech was difficult ; and saliva flowed almost constantly from the mouth.

It was evident, that the impaired constitution of the patient would not allow the immediate performance of a plastic operation ; the indication was therefore to improve his health, and to remedy the defects by operarations ; performed at intervals of time.

The patient having been well nourished for some months, and his health having improved, the formation of an upper lip was undertaken on May 5, 1862. The cicatrical tissue occupying the place of the upper lip was first removed by two vertical semilunar incisions, joined by a horizontal one parallel to the lower edge of the orifice of the nose. This being done, semi-elliptical incisions, about an inch apart, were made from the ends of the semilunar cuts, nearly as far as the ears. The upper incisions were somewhat longer than the lower, and had their convexity directed upwards ; the lower were convex downwards. The transplantation of the flaps was favoured by their curved edges allowing them to be drawn in the proper direction ; but it was also necessary to make incisions into them, dividing also the mucous membrane. Hæmorrhage having been arrested, the flaps were united in the middle line below the nasal orifice with figure-of-8 sutures, as in the operation for hare-lip ; and their upper edges, and the outer third of the lower, were also united in the same way with the corresponding edges of the incision in the face. Ordinary silk sutures, both deep and superficial, were applied in the intervals between the pins. Sutures were also applied to the free edges of the flaps, so as to form the upper lip, the angles of the mouth, and a part of the lower lip. Union rapidly took place ; and, when cicatrisation was complete, the patient had not only an upper lip with its red mucuous membrane, but also a mouth-opening of sufficient size, and capable of being enlarged by the now free movements of the lower jaw.

From this time the patient improved in health and appearance, and was able to take food in the ordinary way. The furrows also, which were produced by the contraction of the cicatrices along the edges of the flaps, gradually disappeared ; so that, at the end of February, 1863, scarcely any difference in the level of the skin could be distinguished. On March 8th, rhinoplasty was performed ; the flap being taken from the forehead, a portion of the scalp also being used to form the septum. The

flaps of cicatrised tissue on each side of the nose were not extirpated, but were brought together towards the middle line and held there by threads so as to form a bridge for the new nose. Knotted sutures were not employed, as they would have interfered with the application of the flap from the forehead. In performing the last mentioned part of the operation, a portion of the frontal periosteum was removed with the flap. Union took place readily by the first intention, not only between the nasal flap and the sound skin, but also between the septum and the upper lip. The portion that had been used to form the bridge of the nose also became united from within outwards to the flap taken from the forehead. A considerable time was occupied in the after treatment, in preventing the septum from becoming united with the alæ nasi ; and the patient was therefore kept in hospital until the end of July. This delay, however, gave an opportunity of observing that there was no sinking in of the new nose, but that it had retained the form given it in the operation. The consistence of the bridge of the nose had not undergone the least change ; and, as there was no trace of bone having been formed by the transplanted periosteum, this retention of shape must, says Dr. von Balassa, be attributed to the retention of the cicatrical tissue of the nose, so as to form a support for the flap. To prevent the nostrils from becoming closed, a special proceeding was required. This consisted in passing a leaden wire through the part of the septum which lay beneath the point of the nose, and was united at the upper part with the alæ. The wire having been introduced by a lancet shaped needle, its end was again brought through the septum at a distance of about two lines : and the two ends were then drawn out through the right nostril and twisted together. It was necessary to leave these leaden loops until the newly formed nostrils were fully cicatrised. The small bridges of skin between the leaden wire and the alæ nasi were not at first cut away ; and it was not until the end of some weeks, when the nasal openings had fully cicatrised, that a horizontal incision was made on each side from the nostril into the alæ ; and, after these were healed, the vertical bridges of skin which extended outwards from the leaden loops were divided. The patient remained in hospital a month after the completion of the operation, during which period the cicatrisation of the septum and alæ pursued a favourable course, and the nostrils appeared to be certain of retaining a proper size. He went home in October, and returned in 1864, when the leaden ring was removed, and a slight plastic operation was performed for the improvement of the lower lip. There was not the least trace of the formation of bone by the transplanted periosteum ; but the nose retained its proper shape, and the nostrils remained quite pervious. (*Berliner Klin. Wochenschr.*, August 14, 1865.

TUMOUR, INVOLVING THE PNEUMOGASTRIC; PERIPHERAL AND REFLEX PAINS.

CLINIC AT THE DISPENSARY OF MEDICAL COLLEGE OF OHIO.

Reported by H. M. Hittner, Chief Clinical Assistant.

History.—Mrs. Spellman, aged fifty years, a native of Alabama, presented herself to the Dispensary of the Medical College of Ohio for treatment. She stated that a tumour appeared about two years ago on the left side of the neck, about an inch below the angle of the inferior maxilla, which gave her much annoyance, and did not yield to the remedies suggested by various physicians. The tumour was first noticed in October, 1863; although at that time rather small, it gradually increased. In six months it had acquired a size about two and a half inches in diameter. Without any local application it broke and discharged a sero-sanguineous fluid, less in quantity than any one would have anticipated from the size of the tumour. From that time until the patient came to the Dispensary, the tumour closed and broke, at intervals; when open, always discharging a small quantity of sero-sanguineous fluid. But this swelling was not the only annoyance to the patient. She complained of shooting pains along the left side, extending almost over the entire thoracic region, and to the stomach. For two years she was troubled with nausea and vomiting, and the different medicines directed to the stomach by physicians, did not relieve her in the slightest.

Other symptoms also presented themselves. Dimness of sight and partial loss of hearing; this was more marked on the left than on the right side. The special sense of smell was also impaired; but the most marked of all the symptoms was a neuralgic pain in the head.

Symptoms.—A tumour presents itself near the angle of the jaw on the inner margin of the sterno-cloido-mastoideus. This tumour appears to be produced by an inflammation of the alveolar tissue, and a deposit of fibrin, which involves the sheath of the vessels. There are pains in the side, extending over the chest with slight difficulty of breathing; pain in the epigastric region with nausea, and pain radiating over the organs of the abdominal cavity. Her senses of sight, smell and hearing are more or less impaired, especially on the left side, and she has violent neuralgic pains in the distribution of the fifth pair.

Diagnosis.—The symptoms in this case are undoubtedly due to the presence of this tumour. The mode in which it acts to produce the phenomena observed may be explained by either of the following theories:

1. The tumour impinges upon the pneumogastric nerve, which, passing down from the jugular foramen, is contained in the same sheath with

the carotid artery and internal jugular. This irritation of the trunk of a nerve, in accordance with the usual law, is felt at its peripheral distribution: hence the thoracic and abdominal pains and nausea. How shall we explain the occurrence of neuralgia in the distribution of the fifth pair and the disturbance in function of the nerves of special sensation; impressions may be transmitted back to the nerve centre and from thence reflected to other nerves. In this case the impression upon the pneumogastric is also transmitted to the nerve centre, reflected and distributed throughout the fifth nerve. But the trifacial is not the only nerve involved. The impairment of the functions of the auditory, olfactory and optic nerves, must be undoubtedly accounted for by the same general law of reflex action.

2. The tumour may involve the branches of the *descendens noni*, which anastomose freely over the sheath of the vessels. If this be the correct view, the nervous phenomena are all of a reflex character.

The first is probably the true explanation.

Treatment.—Under either of these theories the true method of treatment consists in the removal of the tumour, the cause of the irritation. With this view a succession of blisters will be applied over the tumour and the blistered surface dressed with the compound ointment of iodine. To relieve constipation an active cathartic is administered.

Subsequent Progress of the case.—The size of the tumour diminished, the sensation of vomiting and nausea ceased gradually. As the tumor disappeared the functions of the enumerated nerves of special sensation were again fully established without any special medication, nor were any medicines given for the relief of neuralgia. All the symptoms the patient presented and from which she suffered for two years, disappeared, as soon as the neck was reduced to its normal bulk. This case illustrates beautifully the ordinary law of transmission and reflex action.

AMPUTATION, DISARTICULATION AND RESECTION STATISTICS OF THE CONFEDERATE STATES ARMY.

Amputations of the thigh, whole number, 507; primary, 345; recovered, 213; died, 132; 38 per cent. Secondary, 162; recovered, 43; died, 119; 73 per cent.

Amputations of the leg, whole number, 464; primary, 314; recovered, 219; died, 95; 30 per cent. Secondary, 150; recovered, 76; died, 74; 49 per cent.

Amputations of the arm, whole number, 434; primary, 294; recovered, 252; died, 42; 14 per cent. Secondary, 140; recovered, 87; died, 53; 37 per cent.

Amputations of the fore-arm, whole number, 114; primary, 69; recovered, 61; died, 8; 12 per cent. Secondary, 45; recovered, 35; died, 10; 22 per cent.

Disarticulations, whole number, 135; primary, shoulder-joint, 79; recovered, 54; died, 25; 31 per cent. Primary, elbow-joint, 4; recovered, 3; died, 1. Primary, wrist-joint, 7; recovered, 5; died 2: Primary, hip-joint, 3; recovered, 1; died, 2. Primary, knee-joint, 5: recovered, 2; died, 3. Secondary, shoulder-joint, 28; recovered, 8; died, 20; 71 per cent. Secondary, elbow-joint, 3; recovered, 3; died, 1. Secondary, knee-joint, 6; died, 6.

Resections, whole number, 130; primary, shoulder-joint, 41; recovered, 28; died, 13; 27 per cent. Primary, elbow-joint, 25; recovered, 22; died, 3. Primary, wrist-joint, 2; recovered, 2. Primary, knee-joint, 2; died, 2. Secondary, shoulder-joint, 26; recovered, 19; died, 7; 21 per cent. Secondary, elbow-joint, 29; recovered, 23; died, 6; Secondary, wrist-joint, 1; recovered, 1. Secondary, hip-joint, 2; recovered, 1; died, 1.

Amputations of the foot: primary—Chopart's, 16; recovered, 13; died, 3; Symes's, 2; recovered, 2; Pirogoff's, 4; recovered, 2; died, 2. Secondary—Chopart's, 8; recovered, 7; died, 1; Symes's, 4; recovered, 4 (1 unsuccessful, requiring subsequent amputation above the ankle-joint).

A vast number of additional operations are received, but without positive results, and therefore they have not been included in the above list.

We may well be satisfied with the results of these statistics, which, carefully excluding all doubtful cases, are compiled from those operations only that have reached a positive conclusion. A general summary of the above table shows that the mortality after 1,814 operations, including amputations, resections and disarticulations, amounted to 632, giving a death ratio of 34 per cent.

The only statistics on this subject from the Federal army we find in the *United States Army and Naval Journal* for November, 1863, which gives the amputation statistics for September, October, November and December, 1862, as follows:—Whole number, 1,342; deducting 516 under treatment January 1, 1863, 826. Of this number, 336 died; a mortality of 40 per cent.

The journal to which we owe the above observation gives the following table:—Whole number, 1,342; returned to duty, 100; furloughed, 25; deserted, 11; discharged, 350; died, 336; secondary operation, 34; under treatment January 1, 1863, 516.—*Richmond Medical Journal*, and *Confederate States Medical and Surgical Journal*.

HOSPITAL NOTES AND GLEANINGS.

Primary and Secondary Syphilitic Sores on the Eyelids.—It is very rare to meet with a primary syphilitic sore on the eyelid, though secondary ulcers are not unfrequently seen. In the first of the following cases there can be no doubt that the sore on the upper eyelid was a chancre. How inoculation could have been affected it is difficult to conjecture; but the combined facts of its syphilitic appearance, its indurated base, the enlarged gland behind the ear, the eruption over the body, and the rapid manner in which it healed under the influence of mercury, establish beyond a doubt its syphilitic nature.

Secondary sores on the eyelid are often difficult of diagnosis, as in many cases they closely resemble epithelial ulcers; but in cases of doubt a week or ten days' treatment with anti-syphilitic remedies will usually decide their true origin. A syphilitic sore generally commences close to the tarsal edge of the lid, which it partially destroys, leaving a notch which is somewhat characteristic. It will heal at the point where it first commenced, whilst it extends in the opposite direction; whereas in the epithelial sore there is no real repair of the ulcerated surface; it may scab over in one part, and become dry; but a reformation of healthy tissue seldom takes place. The previous history is a very material guide; but syphilis is so often vehemently denied by patients who have suffered from it, that reliance cannot always be placed on their statements with regard to it.

The four following cases are good and instructive examples of this form of malady:

Case 1. *Primary syphilitic sore on the upper eyelid of an infant, followed by a secondary eruption over the body.*—J. F——, aged one year and ten months, came under observation on January 24th of this year, on account of a troublesome sore on the upper eyelid of the left eye, which showed no disposition to heal. The mother stated that it commenced a fortnight before Christmas as a pimple on the upper eyelid, at the inner side, and near its tarsal edge. The child scratched it, and it became a sore, which has increased to its present size.

Present state.—There is a large, somewhat oval-shaped sore, rather more than half an inch in length, and about a quarter of an inch in depth, extending into the tarsal edge of the lid, which has been partially destroyed and presents a sharp notch. The edges of the ulcer are indurated, and its surface is glazed. The mucous membrane of the upper lid is œdematous, and discharges mucco-purulent secretion. There is an enlarged gland behind the ear, and the whole of the body of the child is covered with roseola. The child appeared very feeble, and much out of

health. It was more than five weeks since the ulcer first appeared, and, although local application, had been used, not the slightest benefit had been derived. Ordered a grain of mercury with chalk night and morning, and dilute citrine ointment to the ulcer.

This treatment was continued until the 7th of February, when she was ordered to omit the powder in the morning, but to take one every night. The wound now speedily assumed a healthy action and began to cicatrize.

On Feb. 14th the sore on the eyelid was quite well, the rash over the body had entirely disappeared, and the child was much better in health and had grown much fatter.

Under the subsequent use of the syrup of iodide of iron, the child on the——of March was quite well, but was ordered to be brought to the hospital from time to time, to be under observation.

Case 2. *Secondary syphilitic sore on the upper eyelid.*—Chas. T——, aged 49, admitted Nov. 22d, 1859, suffering from an ulcer on the upper eyelid at the inner part, and involving its free border. The sore was irregular in outline and somewhat oval in shape, healing in one point and extending itself at another. It commenced at the tarsal edge, at the point which now exhibits a deep notch. He states that he has never had syphilis, but the mucous membrane of his tongue is thickened and rugose, and presents all the appearance of syphilitic tongue. He was ordered iodide of potassium thrice a day, with Plummer's pill every other night, and to apply dilute citrine ointment to the sore.

By the 18th of December the wound was quite healed.

Case 3. *Secondary syphilitic ulcer involving the inner angle of the eyelids.*—Sarah P——, aged twenty-three, married three years, applied at the hospital July 31st, 1860, on account of a large sore near the inner angle of the eye, which was encroaching upon the margin of both the upper and lower eyelids, close upon the caruncle.

Present state.—The ulcer is larger than a sixpenny-piece, but irregular in outline. Its edges are inflamed and thickened. It has an unhealthy appearance, and although a portion of it has healed at its lower border, in the opposite direction it is extending itself upon the eyelids. She says she has never had syphilis; but she has lost the bridge of her nose, and is now suffering from a fetid discharge of the nostrils which she has had for the last six years. She has great hoarseness which came on about eighteen months ago, and has continued ever since.

Under the same treatment as in Case 2, the wound rapidly healed.

Case 4. *Secondary syphilitic ulcer on the upper eyelid of four months' duration.*—George A——came to the hospital on Dec. 18th, 1860, with an

oval-shaped ulcer of the upper eyelid, involving the tarsal edge of the cartilage, and extending upwards on to the integument of the lid. Around the margin of the sore there was considerable thickening, and the surface of it had a glazed appearance. He had suffered from it for four months.

On Jan. 15th, 1861, the sore was quite healed under the same plan of treatment as in the two previous cases.—*Lancet*, May 6, 1865.

SUBCUTANEOUS LACERATION OF THE URETHRA IN ACTU COITIONIS

Followed by Hemorrhage and Extensive Ecchymosis. Eventuating in Urinary Fistula.

By Louis Bauer, M. D., of Brooklyn, N. Y.

Surgical writers advert to lacerations of the fibrous sheath of the cavernous bodies of the penis, but I have not been able to ferret out a precedent case of the one which has lately come under my charge.

The patient, some thirty years of age, had, at about 7 o'clock in the evening, attempted several intercourses, when, on a sudden, he felt intense pain in his penis, which disqualified him to consummate the act. On examining himself, he found blood pouring forth from the urethra. His penis became immediately enlarged, and, with the adjoining integument, discoloured.

I saw the patient at one o'clock that night. He was very pallid and cold, and felt so exhausted from the loss of blood as to need copious stimulants. Penis, scrotum, perinæum, and inguinal regions deep-blue from extravasation of blood, and the integuments of the penis so much distended as to give the virile member a monstrous size. The prepuce, more especially, was almost raised to a blister, as we may find in dropsy, if not more so. At the junction of the penis with the scrotum, there was a circumscribed collection of blood, which, on pressure, would be discharged into the urethra. In addition to this, there was retention of urine.

To all appearance, the patient had sustained a transverse laceration of the floor of the urethra, about three and a half inches from its aperture.

The extravasated blood had partly diffused in the connective tissue, partly collected in a space below the wound, from whence the hemorrhage had taken its course through the urethra. Subsequently, the blood had in a measure coagulated and given rise to the circumscribed distension.

The insertion of the catheter was imperatively demanded, 1st, to relieve the bladder, and 2d, to prevent the urine from coming in contact with the wound of the urethra, thus causing urinary infiltration. For this purpose, the catheter should remain in situ. The execution was, however,

extremely difficult, for the prepuce overlapped the gland by more than an inch, and left scarcely space for the passage of the instrument; the orifice could, of course, not be brought in sight. Next, there was the wound, which is so apt to misdirect the point of the catheter. Nevertheless, after repeated and unsuccessful attempts which, however, affirmed my diagnosis in reference to the transverse laceration of the urethra, I at last effected a proper lodgment.

Directing the catheter to be retained, I left my patient in a comfortable situation, at about three o'clock a. m., anticipating no further difficulties in the management of the case; but in this I was doomed to disappointment.

It seems that a few drops of urine had found their way into the space alluded to, in spite of all precaution; the formation of an abscess was the consequence. The opening of the same disclosed a free communication with the floor of the urethra. For three weeks the catheter was used; during this time the abscess firmly closed. The discoloration had likewise disappeared, and thus it seemed as if the status ante had been re-established. From some cause or other, the abscess opened again, with the usual preliminaries, after a closure of some six weeks. A free division will yet be needed to conclude the trouble. Beyond the singularity of the injury, there is no instructive feature in this case.—*Philadelphia Medical and Surgical Reporter.*

MEDICAL CLINIC OF THE PHILADELPHIA HOSPITAL.

Syphilitic Pharyngitis and Laryngitis.

On a former occasion I laid before you one or two cases of syphilitic laryngitis. The severity of this disease and its frequency in general practice is my only apology for presenting two interesting cases this morning. I wish you to become so thoroughly acquainted with the ravages produced by syphilis, and with the means of properly combating it, that you may never be at fault when called upon in civil practice.

Mary Ann S—, æt. 27, was admitted to the medical wards on the 21st of November, suffering from severe sore throat. A few months ago she was under treatment in the venereal wards, but now denies ever having had a chancre. A sudden loss of memory is a characteristic of nearly all the patients treated in that ward. I never saw but one or two after being discharged, who would acknowledge that they had ever had a chancre: but here we have the most conclusive evidence.

Upon opening her mouth you observe that the uvula, arches of the palate, and a part of the roof of the mouth have been destroyed; the

lower portion of the vomer has even been attacked by this ulcerative process.

This other case, the one on the table, is that of a delicate old female. Mary McB., æt. 62, Ireland, was admitted on the 16th of November. Her husband has been dead nineteen years. She also denies ever having had a primary sore. In this case the ulcerative process has not proceeded so far as in the former. She complains of severe pain "in her bones," restlessness at night, and loathing of food. You may observe that her face is covered with peculiar copper colored blotches, characteristic of a specific cause. The ulcers produced by syphilis in the pharynx or larynx, are usually stellated in form, small at first, and seldom attract attention until severe injury to the parts has been done.

When a patient comes to you complaining of sore throat, and upon examination you find a peculiar eruption, copper coloured blotches, pain in the head or limbs, and an ulcer in the throat, no matter how small, make up your mind that there is a specific cause. Place him at once upon the internal use of the iodide of potassium, ten grains three times daily, and at bed time a pill of corrosive sublimate, one-eighth of a grain. The best gargle, as I mentioned in a former clinic, is that of Sir Charles Bell, viz.

℞.	Hyd. chlor. corros.,		gr. ij.
	Sp'ts. rectificat.,		f. ℥ j.
	Tr. cinchonæ,		f. ʒ iij.
	Mel. rosæ.		
	Tinct. myrrhæ,	āā	f. ℥ j. M.

When the ulceration has proceeded so far as in the first case (Mary Ann), an operation might be deemed advisable. But, gentlemen, the truth requires that I should warn you against the operation.

Staphyloraphy consists in paring the edges of the cleft, passing ligatures, through them, and bringing them together. It has been performed by many distinguished surgeons, and in a few cases with gratifying success. Of late years the operation has fallen into disrepute, and I would not advise you to try it.

A few years ago I had a severe case of ulceration from syphilis; after having tried the usual remedies without success, I called in aid the services of a distinguished surgeon of this city, who at once advised an operation. It was immediately performed with but little inconvenience to the patient. The next evening I found that the stitches had given way and the gap was wider then ever.

As a last resort, I concluded to apply an ointment made by rubbing up Donovan's solution with lard, directly to the surface of the ulcer.

The resulting inflammation was terrific. I certainly thought that instead of benefiting my patient, I had indiscreetly placed him beyond hope of remedial aid. But in a few days the inflammation subsided, the ulcer healed, and my patient went away rejoicing. I have since repeatedly tried this same remedy with good results.

A peculiar huskiness of the voice frequently troubles the patient long after the disease has been subdued. It is owing to a change in the mucous membrane; a puffy condition of the lining membrane of the larynx.

I have often found serviceable in these cases the external use of collodion and ether, not to blister but to keep up a constant irritation.

℞.	Collodii,	f. ℥ j.	
	Æther,	f. ℥ v.	M.

At the same time administer internally

℞.	Potass chloras,	ʒ ss.	
	Syr. scillæ,	f. ℥ ij,	
	Aquæ,	f. ℥ j.	M.

S. Teaspoonful occasionally.

—*Philadelphia Medical and Surgical Reporter.*

ON ANÆSTHETICS.

By J. M. Carnochan, M.D., Surgeon in Chief to the State Emigrants' Hospital, New York, etc., etc.

I desire to present through the pages of the Medical and Surgical Reporter a general statement of the facts respecting three surgical operations which I performed, using nitrous oxide gas, administered by Dr. Colton, as the anæsthetic, and my opinion on the value of this agent as compared with chloroform and ether.

The first operation took place on the 22d of last July, and was the removal of the entire breast, and glands of the axilla, for cancer. The patient, a lady in feeble health, was suffering from disease of the throat and lungs and general debility. In thirty-five seconds from the time she began inhaling the gas, she was in a profound anæsthetic sleep. She remained insensible for sixteen consecutive minutes, until the operation was completed, and in forty seconds, from the time the bag was removed, awoke to consciousness without nausea, sickness, or vomiting, as is so often the case with the inhalation of chloroform and sulphuric ether.

The second and third capital operations occurred at the State Emigrants' Hospital, on the 2d of December, and consisted of two amputations of the leg. The time required to produce an anæsthetic sleep in the first

patient, a male adult, extremely debilitated and worn out by disease, was forty-five seconds; whole duration of the operation and influence, two minutes and a quarter. No nausea or unpleasant symptoms.

The third operation was on a boy of about 13 years of age. The time consumed in the inhalation, operation and recovery from the anæsthetic sleep was two minutes, the gas working equally as in the other cases, and the patient, after complete anæsthesia, awaking entirely free from unpleasant symptoms.

For minor operations, or for capital operations, such as amputations which when properly performed should require but a few minutes, I have no hesitation in stating that the nitrous oxide gas, as an anæsthetic, is far superior to either chloroform or ether. Insensibility is suddenly produced, and the patient recovers consciousness quickly, the operation being attended by no nausea or sickness, and without the dangerous effects often incident to chloroform and ether.

It is worthy of remark that the nitrous oxide gas approximates, in its chemical combination, to the composition of the ordinary atmosphere, and we may thus, inferentially, account for its more favourable influence. Whether it can be used in operations which from their nature require from half an hour to an hour's time, remains, till to be proved by actual experiment.

The duration of the anæsthetic influence in the case of the first operation, previously alluded to, is the longest on record; and I may here state that this is the first capital operation performed under the influence of the gas, since the great discovery of Wells of Hartford, twenty-two years ago, that a harmless sleep could be produced by a chemical agent, which could annul for the time being the greatest suffering. It is not at all improbable that had Wells lived and had the boldness to follow up his early successful experiments, chloroform and ether would never have been thought of as anæsthetics.

To G. Q. Colton is due the credit of reviving the use of this important agent, in the practice of dentistry, after a lull of twenty-two years.

The value of a safe anæsthetic agent, which can be used without anticipation of danger by the patient, is a great boon to suffering humanity, and I have related thus minutely its action in my own cases, in the belief, that if similar favourable results are met with by others, the nitrous oxide gas will supersede all other anæsthetics now in use.

VARICOSE VEINS.

Maisonneuve, writes the correspondent "J." of the *Chicago Medical Examiner*, gave me the statistics of his operations for the cure of vari-

cose veins, by injections of per-chloride of iron. He reports 365 operations, 364 cures, and one death. In the fatal case, the tr. of iodine was used by mistake for the per-chloride of iron. A surgeon of large experience, who has had good opportunity to observe his cases, expresses some doubt as to all the others being *cures*. The operation, if carefully conducted, seems to be safe, and is probably as successful as any other.

ENLARGED SPLEEN REMOVED BY EXCISION.

Mr. Spencer Wells exhibited to the Pathological Society (Nov. 21, 1865) an enlarged spleen removed by excision the day before the meeting. The patient was going on tolerably well when Mr. Wells saw her (thirty hours after operation) on his way to the meeting. When removed it weighed six lbs. five ounces, but as nine ounces of blood had drained from its vessels, it now weighed five lbs. twelve ounces.

It was eleven inches long, eight broad, and three to four thick. It appeared to be simply hypertrophied, though some spots on the surface appeared like commencing amyloid or lardaceous change. It was not cut into, however—as being the first case in which the operation had been done in this country, it was to be sent to the museum of the College of Surgeons. Mr. Wells added, that when Mr. Nunn showed a large spleen in that room two or three years ago, and he (Mr. Wells) had suggested that the patient's life might possibly have been saved if the spleen had been removed, Dr. Wilks had approved of the suggestion, and he (Mr. Wells) determined to try what could be done if he met with a suitable case. Soon afterwards he attended a lady, with Dr. Jenner, who had a very large spleen; but there was such extreme leukhæmia coexisting, that operation was never seriously thought of. The lady died near Bristol, and Mr. Clarke, of Clifton, who examined the body, was specially requested to do so with reference to the removal of the spleen. He informed Mr. Wells that it was done quite easily, and that, in his opinion, all the bloodvessels might have been easily secured. Mr. Wells afterwards saw cases of enlarged spleen with Dr. Budd, Dr. Boulton, of Horncastle, and Dr. Gill, of Bow; but in these cases they were the result of intermittent fever, and not in a state of health to render a hazardous operation necessary or justifiable. At length the patient whose spleen was before the society consulted him six weeks ago. She was married, 34 years of age, and the mother of two children. She had only been ill about a year, and the tumour had only been discovered six months. Its growth had been slow at first, but very rapid lately. Mr. Wells prescribed bromide of potassium and quinine. This proving useless, iron was given;

and this being equally useless, excision was proposed, and Dr. Jenner consulted, who said she was dying, that medicine could do no good, while an operation did offer the "*shadow of a chance*" of success. Upon this, the patient and her husband desired that the trial should be made. Mr. Wells found the operation quite easy. An incision, seven inches long, was carried along the outer border of the left rectus abdominis, and the spleen was turned out very easily. The vessels were secured by silk ligatures, which were cut off short and returned. There was very little bleeding. The patient had recovered from the shock, there were as yet no signs of peritonitis; and, if she should recover from the operation, all that we know of removal of the healthy spleen in dogs, and in man accidentally by wounds, led to the hope that the absence of the spleen might be tolerated and a good state of health regained.

Dr. Crisp said the case was a very interesting one, but he did not think it was parallel with cases of removal of spleen from dogs. He had, he said, never seen a healthy liver with such a spleen. He thought the liver had more to do with blood formation than the spleen had.—*Medical Times and Gazette*, Dec. 2, 1865.

Midwifery and Diseases of Women and Children.

THE OTORRHŒA OF CHILDREN.

Clinical Lecture by Prof H. Roger, at the Hospital for Sick Children in Paris.

"I have presented to you, gentlemen, five little patients suffering from otorrhœa, and I take this opportunity to give you my views of this disease. The discharge from the ear is only a symptom, just as the discharge from the urethra, the mucous sputum from the air passages, etc.; its causes are very various; it may be owing to a simple irritation or inflammation, but it may also be based upon a very serious organic lesion in the interior of the ear and its nearest vicinity, and then, of course, lead to a very different prognosis and treatment."

(After recaptitulating the details of these cases, Professor Roger continues:)

"These five cases present, as I have already indicated, all the different species of otorrhœa occurring in children, namely: 1. Acute Otitis; 2. Chronic Otitis; 3. Otorrhœa, or simple or ulcerative inflammation of the mucous membrane of the meatus auditorius, consequent upon some disease of adjoining parts or the tissues surrounding the meatus. These

different species we will now consider more closely according to their causes, symptoms, prognosis and treatment.

"1. *Acute Otitis.*—If a child runs out of doors during a cold wind, or happens, while somewhat heated, into a cold draught, it acquires—sometimes a severe cold with headache, sometimes a catarrhal angina with cough, or else a like inflammation of the meatus auditorius, etc. Sometimes, even, the child takes all these together, or in succession: coryza, angina, otitis. When the lattter sets in, the child awakes soon after falling asleep, or in the middle of the night, with pretty lively fever and complains, if it is able, of pain in the region of the ear. Generally, such pain is acute and sometimes very violent. The child cannot sleep, cries, and if it is not yet sufficiently intelligent, nothing will pacify it, and all our endeavours to find the cause are fruitless. If the pain in the ear is not so severe as to make the child put its hand to it, we have not a single sign from which to surmise the seat of the trouble. The pain will then be sought for in the abdomen, and colic be thought of since neither cough nor dyspnœa is found, and the expression of the face as well as the undisturbed intellect will not allow us to think of a cerebral affection. If we happen to examine the child's ear, we discover perhaps a little redness and swelling in the external meatus, so that it seems narrower, as it were. At the same time the inner membrane of the meatus is dry and extremely sensitive to the touch. Deglutition is painful, and if angina be present, this pain is still greater. The pulse is pretty active, the skin hot, with thirst and loss of appetite.

"These symptoms continue for about two or three days; the pain gradually becomes less continual, appears in paroxysms, and radiates to the other ear, especially when an angina is combined with it. Sometimes this simple otitis really affects both ears, but this is rare. At all events, the severe pain is accustomed to abate in a few days spontaneously, the child becomes calmer, and we then discover upon the pillow on which its head rested, or in the nightcap, a greenish spot caused by a discharge from the ear; this discharge consists at first of but a few drops of purulent matter, but it is accompanied by difficult hearing or deafness—a fact which is more easily discovered in older children than in those quite young. In many cases, however, the pain remains very acute and lasts longer than the period mentioned. The discharge which sets in does not diminish the pain, and is sometimes more, sometimes less profuse. We may, in such a case, be tolerably certain that the inflammation has progressed to internal parts of the ear, and need not be surprised if under these circumstances congestion supervenes.

"When a discharge from the ear has once shown itself, the diagnosis

is manifest; but before this sign appears, it remains in doubt, especially when the attention of the physician has not been called to it by some circumstance. It is impossible to know whether the cutting of teeth, especially of molars, is not the cause of the pain, or if the angina, if such coexists, which may have affected the Eustachian tube, be not to blame; in any case, a close examination of the mouth and throat will give the clue.

"However that be, the disease can terminate—1, in recovery, which takes place after 2–4 weeks, the discharge becoming gradually milder and less copious; or 2, by passing into a chronic state, which engenders an otorrhœa of long duration, and not unfrequently a consecutive alteration of the membrana tympani also.

"The treatment is rather simple. In the acute period local remedies are applicable, especially emollient cataplasms, or the introduction of a few drops of oil of almonds into the meatus, or even of a drop of laudanum. When the intense pain has subsided, two or three injections daily of a tepid infusion of elder in milk, *Decoct. Papaveris*, *Decoct. Althææ*, etc. But if the pain continues very severe, and if there is reason to suppose that the middle and internal ear participate in the inflammation, two or three leeches may be applied to the mastoid process and the bleeding from the bites continued for some time. A little later, when purulent discharge from the ear has begun, recourse may be had, according to circumstance, to aromatic or to astringent injections decoctions of cinchona, of *folia juglandis*, of rhatany with milk and lime-water, etc). The injections must be made freely to cleanse the meatus continually, so that the secreted matter may not, by remaining too long, increase and keep up the irritation. The cure is assisted by the use of derivatives, especially irritating foot-baths, simple sinapisms to the calves of the legs, etc.

"2. In *Chronic Otitis*, repeated injections of water merely are made to free the meatus thoroughly from all pathological secretions. The diseased membrane is then treated, by smaller injections, with astringent or even caustic fluids (acetate of lead, sulphate of zinc or copper,) which are allowed to remain in the ear by closing its external orifice with a little cotton. If there is reason to believe that the membrana tympani is perforated, it is well to be cautious in the use of these injections.

"3. *Secondary*, or consecutive, *Otitis* is that which follows upon other diseases, or is developed in their course. Sometimes it originates during a simple catarrhal inflammation of the throat by continuation through the Eustachian tube into the middle ear. But it occurs especially in the course of eruptive fevers, so in small-pox by the development of

pustules in the meatus, in measles, scarlet fever and typhus. In these cases the otitis begins during the height of the disease, and in the course of measles more rapidly than in the others. In scarlet fever it is produced by inflammation in the vicinity, and scarlatina is next succeeded in point of frequency of the occurrence of otitis by typhus. In the latter it is chiefly congestion by which deafness is suddenly produced, and it is well known with what rapidity difficulty of hearing or deafness supervene in severe cases of typhus; it is the same congestion which in this disease produces splenization and hepatization of the lung.

"The symptoms of secondary otitis are not very conspicuous, however characteristically the symptoms of the main disease may show themselves. The ear-ache is usually not severe and does not engage the attention of the physician; perhaps he recognizes the otitis by accident, perhaps only when discharge from the ear is present. As slow and indeed insiduous as the approach of this inflammation, is also its course and duration—all consecutive inflammations, especially of mucous membrane, taking generally a chronic course. The discharge from the ear becomes permanent, is usually profuse, at times less so; the secretion collects in the meatus or tympanum, and is very fetid and irritating; the membrane, which lines the meatus and the exterior of the membrana tympani, gradually undergoes an alteration by the chronic inflammation, the continual moisture and the irritation. It is softened, swelled and becomes the seat of fungous proliferations or ulcerations. The inflammation may continue upon the periosteum, and even to the bone, and lead to caries, perforation of the membrana tympani, destruction of the ossicula auditus and thus cause irremediable deafness. It may be asserted that the majority of cases of real deafness have their origin in secondary otitis; and variola, measles and scarlatina chiefly are to blame in this respect.

"The treatment of secondary otitis does not differ much from that of the primary; but specific local remedies, such as astringent and caustic injections, must be employed sooner and more energetically, together with the internal use of tonic and antiseptic remedies.

"Properly, a fourth form of otorrhæa ought to be mentioned here, which occurs frequently in children and may be regarded as specific. In children, suffering from eczematous or impetiginous eruptions, e. g. crusta lactea, a purulent and very fetid discharge from the ear is produced, either immediately or after the eruption has been transferred to the mucous membrane of the meatus. The consequences in such a case can be very serious, and we must combat them energetically. The treatment consists in fomentations and injections, at first of mild and depurating, afterwards of astringent or even caustic lotions. At the same

time internally those remedies, which are commonly employed against chronic eczema and impetigo in children.

"To this class, also, belongs scrofulous or tuberculous otitis. It is chronic from its beginning, but instead of progressing from without inwardly, the inflammation takes the reverse course. Usually it is the consequence of caries or necrosis of the mastoid process or the petrous bone. It then forms an abscess, which empties outwardly by perforating the membrana tympani, and a continual discharge of an offensive pus mixed with detritus of bone results, which in the course of time brings the mucous membrane of the meatus to a state of ulceration.

"In caries of the petrous bone, symptoms also appear which show an affection of the neighbouring parts of the brain, more especially of the facial nerve. In the latter case we observe, at the same time with the offensive otorrhœa, a paralysis of the face. A little girl, which we have in the Hospital at present, had measles six months ago, and an otorrhœa remained, which was not cured. Gradually the little one lost her appetite, became emaciated, had alternately diarrhœa and constipation, and finally swelling of the cervical glands. Lately, only, the mother discovered a kind of distortion of the face of her daughter and brought her to us. She looks very pale now, is poor and feeble, and has very conspicuous glandular tumors on the neck under the lower jaw, and at the same time the right half of the face is immovable, without expression, and the paralysis distinctly observable on the lids of the right eye and the depressed angle of the mouth. What is the cause of this condition? The supposition of caries of the temporal bone near the middle or internal ear explains all these symptoms; it explains also the paralysis of one side of the face by the alteration the facial nerve has probably suffered in its passage through the said bone. The swelling of glands, and the exploration of the chest (by which a blowing respiration is detected, with dull sound in the apex of the right lung,) point decidedly to a tuberculous diathesis and leave hardly a doubt but that the suspected osseous lesion, whereupon the otorrhœa and paralysis are based, is of scrofulous origin.

"What prognosis have we in such cases? Without doubt a sad one: for the local disease, as well as the general diathesis and especially the tuberculosis of the lungs, lead us to expect nothing favourable. The strength of the patient will sink more and more, the local lesion will gradually affect the brain and cause a fatal meningitis. (The child really died soon after.) What is possible to be done is simply to cleanse the meatus continually, and this must be done very cautiously. The internal treatment is directed against the tuberculous diathesis."—*Translated for the St. Louis Medical and Surgical Journal.*

Canada Medical Journal.

MONTREAL, JANUARY, 1866.

We may reasonably suppose that our Government have determined on not affording asylum accommodation in or near the city of Montreal. And now that a late member of the Government has been suddenly converted into an Asylum proprietor, by the purchase of Dr. Douglas' share of the Beauport Asylum by Mr. ex-Commissioner of Crown Lands Cauchon, we may presume that a person possessing at least the sympathies of his former colleagues will be able to bring such pressure on the members of the Executive as will crush out all the feeble attempts to do justice to this section of the Lower Province in respect to this question.

We hope that Mr. ex-Commissioner of Crown Lands Cauchon will, as plain Mr. Cauchon of the Beauport Asylum, post himself up on the question of cubic space, and not be led into the error, as was the case with his predecessor, Dr. Douglas, of asserting, before an assembled concourse of *savans*, that his patients have each 300 cubic feet of breathing space. But perhaps our present proprietor will ignore all such low and ill remunerative questions which involve the health and lives of the unfortunates, but which are of very little importance after all, because he has embarked a certain amount of capital in the concern, simply regarding the return likely to accrue, and not caring whether the inmates have 10 cubic feet space or 10,000. These *minor* points he is not expected to debate. There is an imperative duty imposed on us, as public journalists, to repeat the oft-told tale of over-crowding, which, in spite of the increased accommodation in the Beauport Lunatic Asylum, still appears to exist. In the last report of the Prison Inspectors, Mr. Ferres, one of the inspectors, says, in regard to the Beauport Asylum: "I was somewhat taken by surprise to observe that it was accompanied, even while works were advancing, with a continued addition to the numbers, so that *when it was fully completed*, (the italics are ours), the same and indeed worse over-crowding still remained."

With regard to cubic space, Mr. Ferres states that he and Mr. Mereith took the measurements of all the rooms then occupied as dormitories, and found that many of these did not afford more than 350 cubic feet of air to each patient, and none of them over 500 cubic feet. These are incontrovertible facts, and not to be got over by mere newspaper assertion to the contrary.

There are many other facts of which we are cognizant, with regard to this Asylum, such as the fact that the system of ventilation in the building is most defective, the dormitories open into corridors, receiving light and air from them. The air breathed by the inmates in the upper stories having already been breathed by those occupying the rooms underneath; there is no direct means of ventilating each room independently, and the light is borrowed light, supplied from the corridors or passage ways. This is certainly a sad picture of the only Lunatic Asylum in the Lower Province of Canada. As we said before, we presume that Mr. Couchon, having the sympathies of his former colleagues, there will be no lack of funds; and we have no doubt that if the $2.75 per week is not sufficiently remunerative, an increase can easily be obtained. In fact, we, in Lower Canada, have no Insane Hospital; the establishment in Quebec is nothing more than a large boarding house, as has been pointed out by Mr. Inspector of Prisons, T. J. O'Neil, in the last report before referred to—"Beauport Asylum may, therefore, be regarded rather in the light of an extensive boarding house than a public institution."

Of this system of private institutions, under government inspection, we have somewhat to say, but as it is rather foreign to the subject under discussion, we can only condemn the principle as unjust to the community, and not likely to be of benefit to the inmates. Of the necessity for an Asylum, devoted to the treatment of the Insane in Lower Canada, there is no question, no such institution being in existence. In proof of this great want, we can give a case which came under our observation in the village of St. Scholastique, about thirty-six miles from Montreal. On a recent occasion, we visited the temporary jail in that place; the building was originally a farm-house, built of wood; there we found confined in a cell, not as large as a horse's stall, an unfortunate being who was so violent that he had to be locked up. The cell was dark, ill ventilated, noisome with the exhalations and excretions of its unfortunate occupant, who was wallowing in his filth, to remain there—if in mercy death does not put an end to his misery—until room can be made for him, either at the Beauport Lunatic Asylum, or at the "miserable make-shift at St. Johns." This case is one of acute mania, the result of injury, a portion of a building having fallen on his head. It is

really to be regretted that his brains had not been knocked out with his wits—as death, in our opinion, would be far preferable to the miserable existence to which he is condemned, and which is likely to become a permanent and settled mania, as in his present condition, he is deprived of all chance of recovery, from the very nature of his surroundings, as well as the absence of all attempts at treatment. Mania, to be treated at all with a chance of benefit, must be treated early in the attack. We ask, is this a single instance? We fear not: indeed we know that cases of acute mania have been retained in the cells of our city prison, until the period has passed when the chance of benefit could have followed judicious treatment. So long as there are no means at hand for the proper care and treatment of this class of disease, so long may we anticipate a repetition of such cases; and, as a result, the necessity of support, by the people of Canada, of a class of incurables who, had proper means been at hand, might have recovered from their malady, and returned to the industrial population.

These are questions of serious moment, to be taken up and gone into with a heart and will by the philanthropist and political economist. There is no need shirking the question; it will have to be considered before long; but delay is dangerous, nay, it is worse—criminal. Communities as well as individuals are answerable for their acts; and no single act of injustice passes unrecorded and unpunished, while there is a God above us who gives us the means and teaches us how to employ them.

PROFESSIONAL REMUNERATION.

After we had written the article under the above head, which appeared in the December issue of the Journal, but before the number had reached our subscribers, the question of regulating and equalizing the fees of physicians and surgeons practising in Montreal, was brought forward at a regular meeting of the Medico-Chirurgical Society, and a brief discussion thereon took place. It seemed to be the general opinion of the members present, that, considering the high price of every necessary of life, some slight increase in the amount of professional fees should be made; but, *above all*, that there should be a good understanding among the profession, as to what should be charged for professional services, and the agreement adhered to. We have so freely expressed our views upon this subject that we will not again enter at length upon it; yet we cannot but feel that this matter is one of the very highest importance to the profession, and one concerning which action should have been taken several years ago. We are aware of the delicacy of the subject, and of

the many difficulties which surround it, yet we cannot see but that it may be approached, and, with care, all these difficulties surmounted. The question will again, we believe, be brought forward at the next (January) meeting, when we hope the elder members of the profession will be present, and give utterance to their views.

At the same meeting of the Medico-Chirurgical Society the adopting of a code of medical ethics was suggested. We heartily approve of the suggestion, and hope to be able to write upon this subject in our next issue.

THE LATE S. C. SEWELL, M.D., L.R.C.S., Edin.

It is with deep regret, and sympathy for his afflicted widow, that we announce the death of Stephen Charles Sewell, M.D., &c., which lamentable event took place at his residence, in Ottawa City, C.W. Dr. Sewell was a son of the late Solicitor General for the Lower Province, and nephew of the late Chief Justice Sewell, of Quebec. He studied in Edinburgh, and during his pupilage was elected President of the Royal Medical Society of that city. He commenced practice in Montreal about the year 1836 or 1837. In 1842 he was elected Lecturer on Materia Medica McGill University, and Attending Physician Montreal General Hospital, which posts he held up to the year 1848, when he resigned, and left our city. In 1850, on his return to Montreal, he again became attached to the faculty of Medicine McGill College, and to the Staff of the Hospital, and lectured on Clinical Medicine up to the year 1852, when he removed to Ottawa.

Dr. Sewell has contributed several papers of value to medical periodicals, and in the pages of our Journal he published, from time to time, the results of his observations. In manner he was kind and affable; as a lecturer he was clear and painstaking. His views on medicine were sound; and though perhaps not brilliant as a teacher, yet he possessed that gentlemanly deportment which endeared him to his pupils. As a practitioner, he possessed a pleasing manner which inspired confidence. His death, though not sudden, was unexpected. Although his health had been failing for several years past, yet no serious apprehensions were entertained of a fatal result, until about a week before the event.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

The first annual meeting of this Society was held on the 15th of January, when the following gentlemen were elected office-bearers for the ensuing year: *President*, William H. Hingston, M.D., L.R.C.S.E.;

Vice-Presidents, R. Palmer Howard, M.D., L.R.C.S.E., J. L. Leprohon, M.D.; *Treasurer*, Hector Peltier, M.D., Ed.; *Secretaries*, E. Lemire, M.D., W. Wood Squire, A.M., M.D.; *Council*, Drs. Fenwick, Robert Craik, F. W. Campbell, Dagenais, Ricard.

MEDICAL NEWS.

The number of medical students attending the London schools this year is 1022, being an increase of 41 over last year. At the Provincial schools there are over 241 students, being an increase of 2. — Dr. James A. Easton, Professor of Materia Medica in the Glasgow University, died recently of apoplexy. He was an able practitioner, and thoroughly conversant with Materia Medica. — John Moses Galignani, of Paris, has lately built and endowed at Paris an hospital for the English poor of of that city. It contains twenty-five beds, and is placed under the direction of an English Sister of Charity. Two English surgeons have undertaken to give gratuitous attendance. — According to Professor Simpson, Messrs. Duncan, Flockhart & Co., the well known manufacturers of Chloroform in Edinburgh, prepare daily 7000 doses,—counting two drachms as a full dose—thus making 2,500,000 doses a year. — A surgeon's assistant lately poisoned a young lady at Salisbury, England. He subsequently committed suicide by drowning himself in a warm bath. — Dr. Littlejohn, of Edinburgh, warns the public against the use of "Pharaoh's Serpents," as they are called. These toys are compound of sulphocyanide of mercury. The inhalation of some of their products of combustion is highly dangerous; viz., cyanogen, sulphurous and sulphuric acids, bisulphide of carbon, and mercury in vapour. The mass left after combustion is organic matter called "mellor."— Dr. Hammond, late Surgeon General of the Federal Army, has gone to Europe, in charge of a grandson of the late John Jacob Astor, of New York. He receives for his services $10,000 in gold for six months, with all his expenses paid, and should he be detained longer than the time specified, is to receive $3000 per month for the remainder of the term employed.—Her Majesty has been pleased to confer the title of a Baronet of the United Kingdom on William Fergusson, Esq., F.R.S., Professor of Surgery to King's College, London.

The following are the only medical officers, in a list of those now living, who were present at the battle of Trafalgar:—Deputy Inspector General Peter Sutler, then surgeon of the *Swiftshure;* and surgeon P. Lyon, then assistant-surgeon of the *Royal Sovereign*.

Dr. Chambers, of Kingston, New York, was beset by two stout highwaymen, in a lonely part of the road, a few nights since, and his money demanded. The doctor said: "Well, if I must give up my money, I had better do it." So he quickly took off his glove, and putting his hand into his side pocket, he drew out—not his pocket-book—but a neat revolver, and bringing it to bear in an instant, he shot one of the robbers dead. The other ruffian then fired at the doctor, but the ball went harmlessly through his hat. The doctor then took his turn again and wounded the fellow severely. He then rode back to Kingston and made known the facts, but on returning the wounded man had escaped.

Anak the Anakim, the French Giant, has been introduced by Professor Anderson at St. James' Hall, London. The following are his dimensions: Circumference of the head, 2 ft. 3 in.; length of humerus, 1 ft. 9½ in.; length of radius, 1 ft. 5½ in; circumference of fore-arm, 1 ft. 4 in.; round the biceps, 1 ft. 3 in.; circumference of middle finger, 3½ in.; breadth of hand, 5⅞ in.; length of femur, 2 ft. 6¼ in.; length of tibia, 2 ft. 1 in.; length of foot, 1 ft. 4 in.; round the chest, 4 ft. 6 in.; across the shoulder, 2 ft. 1 in.; height, 8 ft.; length of outstretched arms, 8 ft. 1 in.; weight, thirty stone, (420 lbs.) The giant's physical strength is at present unknown. He can lift 600 weight, and is daily growing more powerful.

HEROIC DOSES OF ACETATE OF LEAD IN UTERINE HÆMORRHAGE.

At a recent meeting of the Medical Society of Southwestern, New York, the proceedings of which are recorded in the *Buffalo Med. and Surg. Journal*, Dr. C. K. Irwin, of Dunkirk, read a paper on "Acetate of Lead in Uterine Hæmorrhage in Heroic Doses." He recommends its use in doses of one, two, or three drachms, which, he states, are as free from danger as if given in doses of so many grains, and with the effect of controlling the hæmorrhage, completely, in an instant. Dr. Irwin, in his practice, has always used the acetate of lead in these large doses, without having lost a patient from hæmorrhage of the uterus. It is not necessary to confine its use to cases of full period, or where the placenta has been delivered, as its action will be to cause immediate expulsion of the contents of the uterus, and it can be used in cases of violent hæmorrhage from polypus, hydatids, abortions, retention of placenta, or almost any case requiring prompt and heroic action for the suppression of uterine hæmorrhage, except in cases of placenta previa.

CANADA

MEDICAL JOURNAL.

ORIGINAL COMMUNICATIONS.

Plan of Quarantine for Cholera. By W. Marsden, M.D., Ex-President and Governor of the College of Physicians and Surgeons of Lower Canada; Corresponding Member of the Medical Society of London; Hon. Member Medico-Botanical Society, London; Fel. Path. Society, Montreal; Hon. Fel. Berkshire Med. Society and Lyceum Nat. Hist.; Hon. Fel. Medico-Chir. Society, New York; &c., &c., &c.

The subject of cholera and quarantine which has latterly been agitating the public mind, has at last taken a practical and permanent form on this continent, in which the State of New York has taken the initiative. The legislature has advanced a step in the right direction, by passing a series of resolutions requesting the Governor to ask the general government "to place gratuitously and temporarily at the disposal of the Commissioners of Quarantine of New York, such number of hulks or vessels not now in use by the general government, as may be needed for quarantine purposes in the Port of New York, until some other provision is made by law." For these results we are mainly indebted to the Health Commissioners of New York, but especially so, to its resident physician, Lewis A. Sayre, M.D., who has been unceasing in his efforts to arouse the public to a proper sense of its duties. Professor Charles A. Lee, M.D., of Buffalo, has also come out in support of the safe, sound, and practical notion, that a system of quarantine may be enforced that will prevent the transmission of Asiatic Cholera from one country to another. This opinion is rapidly gaining ground, so many proofs existing that where a *strict* quarantine has been enforced, (independent of the recent one of the S. S. Atlanta) or, where a *cordon sanitaire* entailing rigid non-intercourse, (as in Russia and India) has been carried out, the disease has been arrested.

Dr. Sayre, in his annual report to the Health Commissioners, among other excellent suggestions, proposes that the general government of the United States should take up the subject of quarantine, so as to enforce uniformity of action; not only in the United States, but in Canada, and the British Provinces likewise. In fact, anything short of this would render quarantine, on this continent, worse than useless.

It is in this view of the subject that I now address your readers, and submit for their information, and perchance approval, and for the public in general, my plan of quarantine for Cholera, which has already been submitted to a number of scientific persons, both professional and others in the United States as well as Canada, by whom it has been received most favourably, and among these by Dr. Sayre, who pronounced it "the best he had examined."

Since then, it has been endorsed by the approval of the medical profession here, on the recommendation of the committee appointed at a general meeting, to take the matter into its consideration and report thereon, consisting of Professor Landry, Vice-President of the College of Physicians and Surgeons of Lower Canada; Professor Sewell, Dean of the Faculty of Laval University, and a governor and ex-Vice-President of the College of Physicians and Surgeons of Lower Canada; Professor Larue and Professor Lemieux of Laval University; Dr. H. Blanchet, Governor of the College of Physicians and Surgeons of Lower Canada; R. H. Russell, M.D., and Governor and Secretary of the College of Physicians and Surgeons of Lower Canada, and myself.

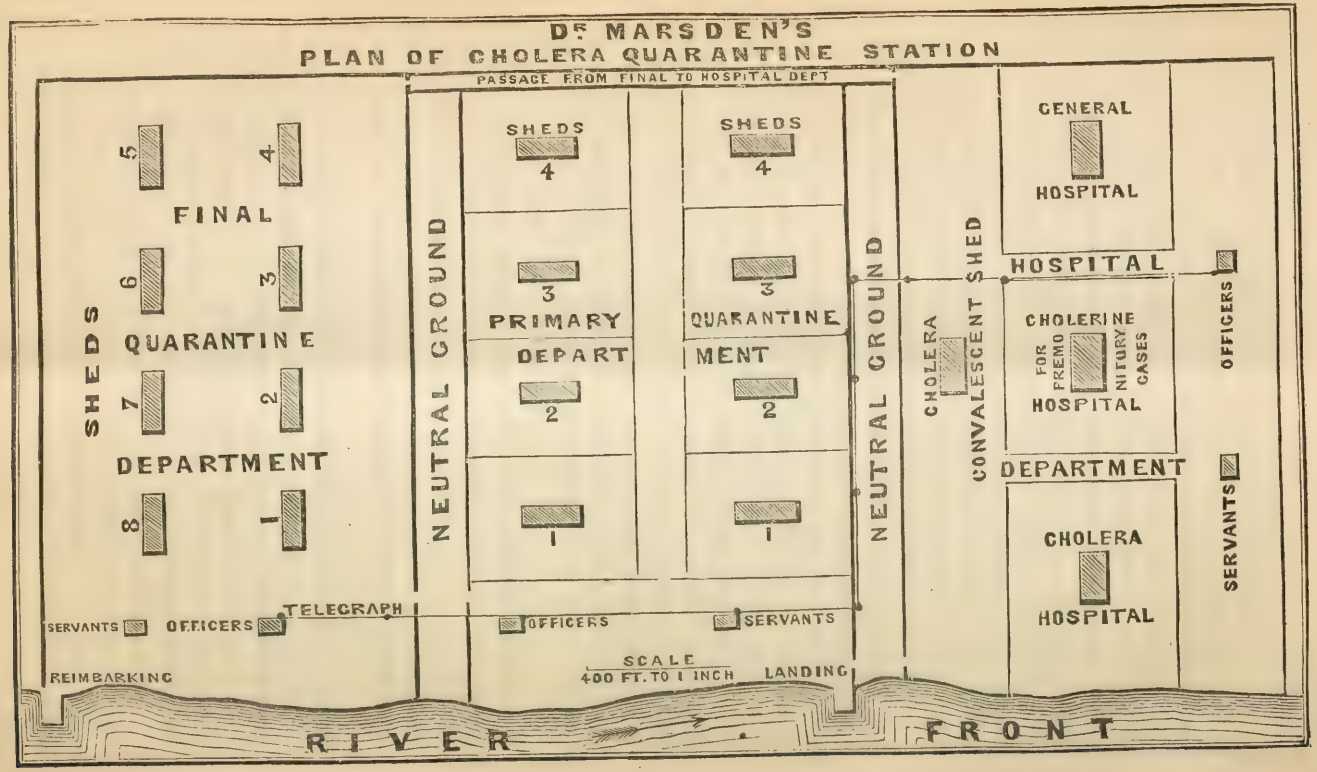
The principle of quarantine for cholera is, according to my system, an absolute one, embodying three separate and independent establishments, having no direct communication with each other. The following are the details, and the accompanying illustrative Leggotype is intended for application to the present quarantine station at Grosse Isle, but it may be adapted to any other locality, whether on an island or the main-land, and may be extended or diminished according to the necessities of the place.

DR. MARSDEN'S PLAN FOR A CHOLERA QUARANTINE STATION.

1. The Cholera Quarantine Station shall be divided into three separate and distinct sections or departments.

2. Each of these three sections or departments shall be isolated, and separated from one another by a *cordon* or portion of neutral ground, of not less than one hundred feet wide.*

* I am of opinion that less than this space might suffice. W. M.


Dr MARSDEN'S
PLAN OF CHOLERA QUARANTINE STATION
PASSAGE FROM FINAL TO HOSPITAL DEPT
SHEDS
5
4
FINAL
6
3
QUARANTINE
7
2
DEPARTMENT
8
1
SHEDS
QUARANTINE
DEPARTMENT
NEUTRAL GROUND
SHEDS
4
3
PRIMARY
DEPART
2
1
SHEDS
4
3
QUARANTINE
MENT
2
1
NEUTRAL GROUND
GENERAL
HOSPITAL
HOSPITAL
CONVALESCENT SHED
CHOLERA
CHOLERINE
FOR
FREMO
NITURY
CASES
HOSPITAL
DEPARTMENT
CHOLERA
HOSPITAL
OFFICERS
SERVANTS
SERVANTS
OFFICERS
TELEGRAPH
OFFICERS
SERVANTS
REIMBARKING
SCALE
400 FT. TO 1 INCH
LANDING
RIVER
FRONT

a. One of these sections or departments shall be appropriated to the use of the sick, and shall be the hospital department.

b. The next or central section or department shall be devoted to the use of passengers not having had cholera, but from infected vessels.

c. And the third or healthy section or department, shall be appropriated to the use of the healthy, who have been removed from the central section or department, after having performed quarantine there.

A. In the first section or department there shall be three separate and distinct hospitals, besides a convalescent shed or hospital.

a. The one for confirmed cases of cholera to be called the "Cholera Hospital."

b. Another for cases of choleraic diarrhœa, or other premonitory symptoms of cholera, or suspected cases of cholera, to be called the "Hospital for Cholerine."

c. The third for all other diseases not cholera or cholerine, but coming from on board infected vessels, or vessels having had cases of cholera on board, to be called the "General Hospital."

B. The next or central section, or department, shall be the primary quarantine department, and shall be appropriated to all persons who are not sick, but come from vessels having had cholera on board, and where, in every case, on landing, shall undergo inspection, washing, cleansing, and purifying, both of persons and personal effects. There a quarantine of four days shall be performed, at the end of which period of time, all such persons as continue in sound health shall be removed to the Final Quarantine Department, and any that may fall sick, or be threatened with sickness, during the four days of probation, shall, as soon as detected, be removed to the proper hospital in the Hospital Department. Here all the healthy inmates shall be removed daily to a new locality, thus occupying four different habitations during their sojourn.

C. The third, or healthy department, shall be the Final Department, and shall be for all cases coming from the Primary Quarantine Department, after having been cleansed, washed, and disinfected, and after having undergone the *four days* quarantine, and here a further quarantine of *six days* shall be performed, (excepting in cases coming from the convalescent hospital or shed hereinafter provided for); making, in all, ten clear days of quarantine, when all persons continuing healthy shall be discharged from quarantine, and be removed from the station. If any premonitory symptoms or other cases of sickness occur in this department during the six days of quarantine, they shall, as soon as discovered, be removed to the proper hospital in the Hospital Department.

The three sections or departments above described shall be designated and known as,—

1. The Hospital Department.
2. The Primary Quarantine Department.
3. The Final Quarantine Department.

TO PILOTS.

1. All vessels coming from infected ports, and having, or having had, cholera cases on board, shall be brought to anchor abreast of the central or Primary Quarantine Department or Station.

2. All vessels coming from ports known to be infected by cholera or not, and not having, or having had, any case or cases of cholera on board, shall be brought to anchor abreast of the healthy or Final Quarantine Department or Station, where and when they shall be boarded by the medical officer of that department, and he shall have power either to discharge them from quarantine forthwith, or detain them, if he finds sufficient cause for so doing.

OF LANDING AND RE-EMBARKING.

a. The *landing* of passengers and their effects shall take place at the Primary Quarantine Department *only*.

b. The *re embarking* of passengers and their effects shall take place from the Final Quarantine Department *only*.

No communication shall take place with the Hospital Department excepting through the central or Primary Quarantine Department, for which purpose a passage, unfrequented by the persons undergoing quarantine, shall be set apart and reserved.

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1. On the landing of passengers from on board ship at the Primary Quarantine Station, the sick shall be forthwith removed to the Hospital Department, and the healthy to the place assigned to them in the Primary Quarantine Department.

2. The sick shall be borne upon litters, and placed within the neutral limits, about mid-way between the Primary Quarantine and the Hospital Departments, by the persons who bring them ashore, and who shall then retire to the Primary Quarantine Department, (unless they be seamen belonging to the vessel, in which case they shall return aboard ship.) whereupon persons from the Hospital Department shall enter the neutral ground, and remove them to the proper hospital.

3. There shall be in the Hospital Department, at a reasonable distance from the Cholera Hospital, a shed or building for cholera convalescents,

where they shall remain at least for four days previous to being removed to the Primary Quarantine Department, and where a quarantine of four more days shall be performed after cleansing, washing, and purifying, previous to removal to the Final Quarantine Department, where *two* more days of quarantine only, instead of six, shall be performed, making in all ten clear days after leaving the Cholera Hospital, when, if the patient continues healthy, he, or she, shall be discharged.

4. Persons having completed their period of quarantine, shall be removed at once from the Quarantine Station by steamers chartered for the purpose, and shall proceed directly on their journey.

5. Provisions, stores, clothing, bedding, and all other necessaries or supplies for the Hospital Department, shall be conveyed within the Hospital limits under the same regulations and restrictions as persons.

6. All physicians, orderlies, servants, nurses, and attendants, &c., connected with the Cholera Quarantine Station, as also all persons performing quarantine, shall remain and be kept constantly in the department or section to which they have respectively been assigned, and none of them shall, under any pretext whatever, be permitted to have any communication or intercourse whatever, directly or indirectly, with persons from another department or section, excepting in due course of quarantine.

7. Any employé, nurse, or orderly belonging to the Quarantine Station who may be found violating the above rule, shall be liable to suspension from office, with forfeiture of salary and emoluments, or dismissal from office, at the discretion of the medical officer in charge, or of the superintendent, besides being obliged to undergo such quarantine as the nature of the contact or exposure may warrant.

8. Any person violating the above rule by going from the Final Quarantine Department to the Primary Quarantine Department, or from either of these to the Hospital Department, shall, on detection, be detained in the department they have gone into in violation of the law, and shall undergo quarantine there anew.

9. All persons suffering the approach of persons from another department, excepting in due course of quarantine, will render themselves liable, at the discretion of the medical officer, to be sent back to the department to which the person so approaching them belonged and shall undergo quarantine anew.

10. The three Quarantine Sections or Departments shall be separated from each other, and bounded by a *cordon* or piece of neutral ground of at least one hundred feet in width, and shall be surrounded by a strong fence of at least seven feet high.

11. Between the Final Quarantine and Hospital Departments, at the extreme end of the Primary Quarantine Department, there shall be a *cordon*, or passage, or portion of ground, of at least thirty feet wide, with a close fence of seven feet high, to be used exclusively as a passage from the Final to the Hospital Department, for the return of patients to the Hospital Department if necessary.

12. Each of the sub-divisions in the Hospital Department shall be surrounded by an open fence of seven feet high.

13. Each of the sub-divisions in the other departments, and especially in the Primary Quarantine Department, shall be surrounded by a close fence of seven feet high.

14. Each of the before-mentioned departments may and shall be sub-divided in such manner as circumstances may require, and as near as practicable in accordance with the accompanying plan.

15. The place of landing in the Primary Quarantine Department shall be as near the Hospital Department as convenient, and as far removed as possible from the place of departure or re-embarkation in the Final Quarantine Department.

16. There shall be telegraphic communication between each of the departments, with a telegraph operator attached to each.

Among the further practical details of this plan, the following is most important :

A *perpetual* stream of water shall be made to flow through all the water-closets, cess-pools, drains, &c., which shall empty themselves at low water mark ; and such other disinfectants and deodorizers as science may suggest, and necessity dictate, shall also be used.

Quebec, January, 1866.

Cholera : a few Practical Remarks on its Prevention. By Robert T. Godfrey, M.D.

(*Read before the Montreal Medico-Chirurgical Society, January 26th*, 1866.)

Gentlemen,—Having been extensively engaged in the treatment of cholera, during its several visitations, it affords me much pleasure to offer you these few remarks which, I trust, you will find useful in preventing the disease from spreading ; and it may not be out of place, to state to you my views of the often asked question, What is Cholera ?

I believe the disease to be confined to the blood communicated generally through the alimentary canal—that nature in making an effort to throw off the poison, pours the serum of the blood into the stomach and intestines, in consequence of which, the blood becomes so thick that it

cannot circulate through the smaller blood vessels, causing cramps in the extremities, impeded circulation and death.

Every casual observer must have noticed that cholera travels inland, along the different navigable rivers and canals; for in its several visits to this continent it has always followed this course. First, going up the St. Lawrence and down the Mississippi, next adopting the opposite route, or by whichever channel the stream of emigration travelled. It has also been frequently remarked, that the inhabitants on one side of a river have been decimated, while those on the opposite bank were not visited by the disease. Along some of our canals it has been so fatal, that men could not be obtained to open the locks for the passage of the steamboats.

During its visits to this city it was a remarkable fact, that what might be called one of the healthiest localities, the east end, where the soil is high, well drained and gravelly; also along the banks of the river for several miles down, where the banks are high and free from stagnant water—the mortality was greatest; caused by the fact that the residents drank the water that was taken from the side of the river, below where the shipping was moored and where the drainage entered, in consequence of the new water-works not having been completed until the disease had left the city. I may mention also, that in 1854, three rafts were moored on this side of the river below the tollgate, and two on the opposite side; while those on this side lost nine men from cholera, those on the opposite shore did not lose a man.

These circumstances, with many others, have convinced me that cholera is propagated and spread principally through water, which has been contaminated by diseased egesta from a cholera patient, and I consider that this choleraic poison, when thrown into water, increases its contagious power so rapidly as to effect a river for miles down.

Should the cholera ever again visit this city, we may safely predict it will not be so fatal as on former occasions, in consequence of the supply of water from the new water works being obtained above the source of contamination. It will be confined almost exclusively to those persons engaged on the river, and who do not use the proper precaution for preventing their being infected by it.

Presuming the disease to be taken from the water, we would naturally ask ourselves the question, What is the most simple and efficacious method of making the water fit for use, and destroying the poison it contains?

I reply, simply by having it boiled.

Every householder should have a jug of water that had been previously

boiled and allowed to cool standing on the side-board, or in some convenient place ready for use, and should be particular that no water is drunk by any individual until it has been thus prepared. Boiling destroys all possibility of any contagion remaining in the water, no matter how infectious the water may have hitherto been. There will not be the slightest necessity for brandy, whisky, camphor, sulphur, charcoal, or any other prophylactic put into it.

Before closing these remarks, I may add one more hygienic observation that I trust will be found useful.

Where the out-buildings are in close proximity to the back of the dwellings, it will be necessary to have a small chimney or ventilator made of wood, taken below the seat of the water closet and carried a sufficient height above the roof to secure a good draught from the pit. This is a salutary precaution that should be adopted in Canada, whether cholera be present or not.

By observing these two simple precautions, both you and your patients that are not already affected, will be as safe in the midst of cholera, as if there were not a case within a thousand miles.

Gentlemen, should it be agreeable to you, I shall be happy to read, on a future occasion, a few observations on the treatment I have found most successful in this disease.

St. Catherine Street, Montreal, January 26th, 1866.

An Artificial Vagina. By WILLIAM H. HINGSTON, M.D., L.R.C S.E., Surgeon to St. Patrick's department of the *Hôtel Dieu*, being a paper read before the Medico-Chirurgical Society of Montreal.

GENTLEMEN,—A recent number of the *Boston Medical Journal* furnishes details of a case of congenital absence of the vagina, in a young person of that city, which has justly been deemed of sufficient interest to obtain admission to the columns of the *Gazette Medicale.* Dr. Collins, of Boston, had been consulted by a young girl, twenty-two years of age, who had never menstruated, and who, on examination, presented no trace of a vagina. The meatus was at the normal place, and a slight depression below it indicated the *locale* of the *os-externum.* An examination, *per rectum*, established the existence of an uterus, and the report concludes thus: "The case was deemed irremediable." In reading the above report—which I have here much condensed—it is like that of a case which occurred in my own practice here, with this difference, however, the case was not deemed irremediable; and as the details may interest some of the members of the society as they did me, I shall briefly narrate them:

In the summer of 1859, I was asked to see Miss —— of this city, aged 23, who, I was informed, had never menstruated, and who suffered greatly in consequence. Miss —— was a stout, red-faced girl with bloated swollen face, and presenting an appearance of general plethora. She told me her sufferings were almost incessant, but were more severe for a few days in each month; and this condition of things had continued from the age of fourteen, with gradually increasing severity. Her days were passed in pain and her nights in troubled and disordered sleep, in feverish dreams, or wakefulness. Several years before, she had, by the advice of her physician, commenced taking morphia, which she had rapidly increased in quantity, without being rendered oblivious to her sufferings; and the sleep into which she would sometimes fall, was so laboured, and her breathing so stertorous, as frequently to oblige her parents to arouse her. Several physicians had been consulted during the long course of her sufferings, and as my patient had retained a list of the medicines employed by each, it presented a most formidable array of emmenagogues, cathartics, sudorifics, and special derivatives and stimulants. As the potent armaments of the materia medica had already been pretty fairly exhausted, I proposed a tactual examination. To this, however, there were objections, until the very intelligent midwife who had been instrumental in having me consulted, (and who, at my request, made an examination,) had informed the patient she was unlike the rest of womankind. On inspection, the mons veneris was very scantily supplied with its usual covering, and the cushion of adipose tissue over the symphisis pubis was neither thick nor firm. The meatus urinarius existed at its normal site, and a little below, there was a slight depression marking the place of the vagina. But there was no preputium clitoridis—no clitoris—no labiæ or nymphæ—no vestibule. An examination, per rectum, established the existence of an uterus, but, with the catheter at the same time in the urethra, no interposed vagina could be felt. I at once proposed to remedy, surgically, this anomalous state of things, hoping a division of the skin—which seemed to be thin—would lead to something like a vagina. Consent having been obtained, I made the first incision on the 23rd June, 1859, from within three lines of the meatus, to within the same distance of the rectum.

Here and there, in the line of the incision, I met with condensed areolar tissue, but no vestige of a vagina. I now made up my mind that there existed no natural passage, and that it was necessary to hew one out of the soft tissues. A day was named for the purpose, and in the meantime a large fine Turkey sponge was immersed in a thick solution of gum acacia, and submitted to enormous pressure for a few days, by which it was reduced to the thickness and hardness of sole leather.

On 27th June, the patient was placed under the influence of chloroform,

and an incision, the length of the first, was made in the mesian line; a three-valved speculum was introduced, and through it, several narrow strips of hardened sponge. The hemorrhage during the operation was somewhat alarming; but, after my departure, the quantity of blood lost was so great as to soak through the bed, run in a stream upon the floor, and induce frequent syncope. When hastily summoned to the bedside, I removed the thickly swollen slices of sponge by strings, which had, previous to their introduction, been attached to each piece; and employed astringent injections. The hemorrhage gradually ceased; not, however, till I had time to reflect that Simpson's fate—under somewhat similar circumstances—was to be mine, with a *renommée*, however, less able to bear a shock which had almost unseated the advocate of hysterotomy. Two days after the removal of the sponge, I reintroduced fresh pieces through the speculum— the patient being under the influence of chloroform—and repeated this proceeding, without chloroform, every second day for a fortnight, when, by coaxing and urging, I induced the patient to submit to the knife again—assuring her friends and herself that the hemorrhage on this occasion would be inconsiderable, as I could feel the uterus at a short distance from the wound already made. On 15th July, another and a deeper incision was directed upwards and backwards, and still in the mesian line, when the os uteri was reached—full, thick-lipped, and pouting. No discharge or secretion of any kind escaped, though an elastic bougie was made to enter the interior cavity to the usual depth. I had now a vagina formed, suited to any purpose, and the compressed sponge still increased its capacity. The sponge was removed, and fresh pieces introduced every second day for several weeks, when the speculum, covered with lint, was substituted—introduced in the ordinary way, and the handles secured together. A fortnight after the last operation a very moderate secretion took place, which increased at the succeeding menstrual periods, with complete relief to all those distressing symptoms for the relief of which she had consulted me. The morphia was laid aside, and sleep, without it, was sound and refreshing; and the patient, from a bloated, swollen and apoplectic looking object, became as slender and as genteel as she could have desired. The dilating process was continued several months. Some time ago, I was asked my opinion concerning her marriage (then on the *tapis*), and, after an examination, unhesitatingly counselled it. (The smooth walls of the artificial vagina were now lubricated with a secretion, and the organ was of the ordinary capacity.) The marriage took place, and the lucky possessor of the slim unweibliche fraulein is still—so far as I am aware, ignorant of the circumstance that the knife had carved for him a path to enjoyment. And now I have to mention what to me appears the most remarkable

circumstance in the case. Previous to the operation there was no sexual desire, but when menstruation had been fairly established there was a difference in that respect; and after marriage, gratification had increased with sexual indulgence. The patient has not become pregnant. These, gentlemen, are, briefly, a few of the more salient points of a case which had much interested me. I have consulted every work within my reach for details of a similar one, but could find none, till the report of that of Dr. Collins, above mentioned, attracted my notice.

Case of Aneurism of the Aorta. By JOHN DUFF, M.D., Surgeon Royal Artillery, Quebec.

Sapper Samuel Pemberton, R. Engineers, æt, 30, service six years; of which five on present station, B. N. A.—admitted into Hospital 16th August, 1865, died 2nd January, 1866.

On admission this man complained simply of a dull pain in his loins, which being looked upon as nothing of consequence was treated accordingly. Three days afterwards, however, the pain not yielding, I made an examination, and the following was the state of parts detected, as entered in the Medical Register—"Marks of cupping are seen on the loins, also a blister, which he says had been practised some time ago, for the same complaint, namely, lumbar pains—states that the pain is increased in the lumbar region, when he lies on his face—but when turning on his back, this pain is most felt in the abdomen. This latter region examined, and a well defined pulsating tumour detected, immediately above the umbilicus-tumour feeling about the size of a small orange—stethoscope discovers an obscure bruit, but whether this is an aneurismal bruit, or the result of a tumour pressing on the aorta is not at all so very clear. I am inclined to think the *latter* on account of the peculiarity of the pain shifting with different positions of the body, as if from the traction of a moveable tumour, the traction varying according to position."

This was the first entry in register. Matters went on pretty much unchanged up to the 1st Sept, when following is a copy of that date—"Bruit heard to day very distinctly in the epigastric region, to the right of the mesial line.—Site of bruit well defined, and confined to a space not larger than a crown piece. This bruit is sometimes absent, which makes it doubtful as to whether or not it is caused by aneurism, or is the result of pressure upon a vessel, by a tumour, the pressure varying in different positions. No impulse or bruit detected when the man is in the erect position. Is now markedly jaundiced, probably from pressure on gall duct. States that some times when he lies on his back, he sees a lump

rise slowly in the epigastrium till it attains the size of an egg, when it gradually subsides again." On 17th September, the tumour is noted as increasing ; pain becoming more severe, and of a dragging character and the bruit heard over a much larger extent of surface. On 6th October report states:—" Complains of constant pain in back, and neighbourhood of tumour generally ; bruit now audible over the whole tumour, and its aneurismal character is more apparent." Nov. 16th, report states : " Tumor very perceptibly increased, its aneurismal character well defined." After this date the man rapidly got worse, and pain increased depriving him of sleep, till on the 4th December he was reported " as unable to get up, or even sit up;" says, that when he attempts to do so, he feels " a severe pain dragging down from shoulders and chest, " and this time the tumour was easily felt of a conical form and about twice the size of a closed fist. On the 2nd January, 1866, just after finishing breakfast, which consisted of tea and toast, he suddenly died, and with his death the tumour in the abdomen at once disappeared. Throughout, the treatment was purely palliative. The man, naturally of a weak habit of body and relaxed appearance, could not sustain any depressing treatment, even should this line of action have been considered as likely to give a chance of recovery, as it is reported to have done in some rare instances. Local applications and opiates to relieve pain, were therefore chiefly had recourse to, with general rest. The man's history does not furnish any clue to the origin of the disease. History sheet shows him as having been under treatment several times, for venereal affections, and once with secondary syphilis. Never strained or injured himself in any way to his knowledge. His general appearance may be mentioned as having been weakly.

Post-mortem appearances, twenty six hours after death.

Body emaciated but not to any great extent. No tumour can be felt in abdomen. Chest—on opening the cavity an enormous mass of clotted blood is found filling its right side, the pleural cavity completely occupied by it ; the lung being pressed backward toward the spine. Both lungs healthy ; slight pleural adhesions ; old ones left side. Heart healthy —abdomen—stomach, liver, and other viscera healthy. Close to the lower border of stomach, and towards its pyloric extremity, a tumour about the size of an orange presented itself, at first looking like diseased pancreas, but closer examination detected the latter, in a state of almost complete absorption, lying along the surface of, but not in any way incorporated with this tumour. Dissecting backwards, this tumour was found to be connected with the aorta. This vessel was dissected out, by cutting it across immediately below its arch and working downwards. During this operation the following state of matters was discovered—

a large aneurism of aorta, involving about one half inch of the thoracic and the same if not two inches of the abdominal aorta; the main trunk of the superior mesenteric was also involved. The aortic portion of the aneurism was firmly attached to spinal column, but the mesenteric aneurism formed a large conical and very moveable tumour, apex of cone pointing to abdominal wall, below the lower border of stomach, which as before noted had removed a great portion of the pancreas from pressure. The lesion took place in the thoracic portion of the aneurism close to the crus of diaphragm, just as the thoracic was about to become the abdominal aorta. The aortal aneurism had some layers of fibrine formed round its wall, but the mesenteric was almost filled with thick layers of tough organized looking coagula—that portion of the aortic wall which rested on the vertebræ, was entirely absorbed, the vertebrae in reality forming the back wall of the aneurism, they also were extensively absorbed and broke down under finger; cartilages prominent and not altered.

Remarks.—There are some points of considerable interest connected with this case. It will be remembered that at one time the bruit was noted as being peculiar, in occasionally being obscure, and at times never heard, when the man was in the erect position; and in this position no impulse felt. Now the examination having always taken place after breakfast, can it be that the stomach in a state of distention, occasionally so crowded over the mesenteric tumour as to prevent impulse being felt or heard. The peculiarity of pain noted on admission to Hospital, as shifting with different positions of body, as if from traction of a moveable tumour, and which at one time gave rise to doubt as to whether or not an aneurism really existed, is I think fully accounted for when we consider that the mesenteric aneurism formed in reality a large moveable tumour, which no doubt did alter its position, according to whether the man lay on his back, side, or stood up.

Note by Dr. Anderson.—Having seen the above case during life, and having been also present at the *post-mortem* examination, I thought it of such interest that I requested Dr. Duff to permit it to be published in the Canada Medical Journal; he consented, and permitted me to take a copy of the abstract for that purpose. It has occurred to me, that when the man stood erect the tumour being pendulous, by gravitation, brought the sides of the mesenteric artery together and thus produced occlusion, which I think may fairly account for no bruit or impulse being detected.

25 St. Geneiveve Street, Quebec, 1st. Feb., 1866.

HOSPITAL REPORTS.

Fungus Hæmatodes on the Hand.—Amputation of the forearm at its lower third, by Dr. G. E. Fenwick.—Reported by Mr. Charles E. Hickey.

Catherine Pinnegar—admitted to the Montreal General Hospital, Nov. 21st, 1865, aged forty—married—is the mother of nine children, the last being born on the 20th of last May. She is of large proportions, being considerably above the medium height. Is a native of Canada, and of healthy parents; has always enjoyed good health, and worked very hard.

Fifteen years ago she felt a slight pain, and noticed a swelling on the outer and posterior aspect of the metacarpal bone of the little finger of the right hand. One year from the time first observed, the swelling having reached the size of a goose's egg, with a pinkish hue, and being more or less painful at intervals, it was excised, the wound healing rapidly. Six months after, the surgeon who had performed the operation, on examining the part found it tender, and told the patient it would again trouble her. About this time, she felt it stinging or pricking like needles, but not enough to keep her from work. Whenever it would receive a blow the pain became very great, but was readily relieved by a poultice. This constant pain was always greatest during pregnancy, and after parturition was markedly diminished, and more throbbing in character. The recurrence, also, of menstruation, after rearing her children, likewise brought a great alleviation of pain.

Between four and five years from the time of its removal, it commenced growing gradually until about the middle of October last, when it burst through the skin, and presented a cauliflower like growth. It was then nearly the size of two fists and had a peculiar and offensive odor. The pains were now of a shooting character, or, to use the patient's own language, *like lightning*, running up to the shoulder and into her chest. After bursting through the skin it was not so tender to the touch.

After a consultation on the 25th of Nov., Dr. Fenwick removed the hand by amputation of the fore-arm, at its lower third, double flap operation; cold water dressing was applied, and the wound healed very rapidly. For several days after the operation slight shooting pains were felt running up to the elbow. These, however, gradually disappeared; she was always in good spirits and left the hospital the 3rd of January, 1866, thankful and rejoicing.

REVIEWS AND NOTICES OF BOOKS.

The Principles of Surgery. By JAMES SYME, F.R.S.E., Surgeon in ordinary to the Queen in Scotland; Professor of Clinical Surgery, University of Edinburgh, &c., &c., to which are appended his treatise on diseases of the rectum; structure of the urethra and fistula in perineo; the excision of diseased joints; and numerous addional contributions to the pathology and practice of Surgery. Edited by his former pupil, Donald Maclean, M.D., L.R.C.S.E., Professor of the Institutes of Medicine and Lecturer on Clinical Surgery, Queen's University, Canada. 8vo. pp. 880. Philadelphia, J. B. Lippincott & Co., 1866.

The work before us is simply what Mr. Syme, in his preface, calls it, "a framework of surgical science." In its composition *the author's* aim has been not to record all that might be said in regard to each subject under discussion, but to select what seemed of most importance.

The views of Mr. Syme on the subject of medical study are worthy of note; it is a subject which has, we have no doubt, come seriously under his consideration, as a member of the general council of medical education and registration of the United Kingdom. The system of overteaching is as injurious as that of overcrowding; the mind becomes wearied with the vastness of the subject at which an attempt is made to grasp. But however much may be said against over-teaching, we do think that in sending out a work, hailing from the pen of a surgeon of such acknowledged eminence as a teacher and operator as is Mr. Syme, more is expected than a very framework, and that but slightly altered since it first saw light some thirty years ago.

Mr. Syme, or his diligent pupil Dr. Maclean, might have brought the work down to the times in which we live; as at present the reader cannot but imagine that by some awkward error the printer has got hold of an old edition of Mr. Syme's work and reproduced it, and not his recent notes on the principles of surgery.

We fear our author has, in avoiding the sands of over-teaching, struck forcibly on the rock of terseness, and has omitted much which is useful to know, and without which, his framework appears incomplete. There is a medium in all things, but we prefer seeking knowledge at the expense of time and the midnight oil in the persual of more voluminous works on surgery, though, perhaps, from authorities of less note than the very eminent author of the present volume, running our chance of read-

ing too much rather than too little. In addition to the work on the principles of surgery, there is an appendix consisting of the well known publication of Mr. Syme, On disease of the Rectum; Stricture of the Urethra; Excision of Joints; Observations on Clinical Surgery, and his last papers on Excision of the Scapula and Tongue. These papers, all of them of great value, it is unnecessary to notice: they have already appeared before the profession in another form, and are conceded on all hands to be most valuable contributions to surgery. They contain the views, modes of treatment, and manner of performing operations with which the name of Mr. Syme is inseparable.

The work is well illustrated, and the wood-cuts are clear, and the paper and typography are superior. It is to be had of Dawson Bros., Great St. James street.

Lectures on Epilepsy, Pain, and Paralysis, and certain other Diseases of the Nervous System. By CHARLES BLAND RADCLIFFE, M.D., Fellow of the Royal College of Physicians, London; Physician to the Westminster Hospital, and to the National Hospital for the Paralyzed and Epileptic. Philadelphia: Lindsay & Blakiston. 1866. Montreal: Dawson Brothers.

The reputation which Dr. Radcliffe possesses as a very able authority on nervous affections will commend this reprint of his lectures to every medical practitioner. Disorders of the nervous system are very imperfectly comprehended—much concerning them being involved in mystery; and while Dr. Radcliffe has taken advantage of the ample room to theorize which his subject afforded, he has not failed to bring forward strong and formidable facts to prove the deductions he attempts to draw. The style of his writing is peculiarly terse and abrupt, yet easily comprehended—a great advantage when the obscurity and difficulty which surrounds his subject is considered. As a specimen of the terseness of his style we copy from page 190: "The general conclusions to be deduced from the conditions of the functions of respiration, circulation, and innervation in convulsion is this—that the pathology of convulsion is as much in harmony with the view of muscular motion set forth in these lectures, as it is at variance with the correct view on the subject—that, in fact, convulsion is connected with a state of depressed vital energy, and not with a contrary state of things. All the previous considerations lead to this conclusion, and to this conclusion only; and if I have failed to make this plain, it is now too late to make it plainer." On the treatment of epilepsy, Dr. Radcliffe is brief, speaking strongly, however, in favour of bromide of

potassium in doses of ten grains, three times daily—he having used it constantly since 1858. Purgatives are deprecated and gymnastic exercises, cod liver oil, &c., strongly recommended. Without devoting greater space than we can at the present moment spare, an adequate idea of the great importance of the work cannot be given. We therefore recommend it to the notice of our readers, as a work that will throw much light upon the Physiology and Pathology of the Nervous System.

PERISCOPIC DEPARTMENT.

Medicine.

LOCOMOTIVE ATAXY—TREATMENT BY IODIDE OF POTASSIUM—PARTIAL IMPROVEMENT.

(Under the care of Dr. Archibald Reith.)

The following cases, for the report of which we are indebted to Mr. Fowler, are the first cases of locomotor ataxy which we have published in our Hospital Reports. They will be read with interest, as the disease is now exciting considerable attention in this country. Trousseau has given a most interesting account of progressive locomotor ataxy, and it may now, we are glad to say, be read in English. Dr. Bazire has just published the first part of his translation of the Professor's lectures. Dr. Bazire has added to the lecture on locomotor ataxy a most valuable record of cases observed by himself at the Hospital for Epilepsy and Paralysis, with important observations thereon.

James M., aged 39, plasterer, was admitted into John Forbes' Ward, March 23, 1865.

Previous History.—His health generally has been very good, and he has been very temperate in his habits. He has never had any disease with the exception of measles and hooping cough in childhood. About three years ago he passed water very frequently for a week; but he did not feel ill at the time, nor did he observe anything peculiar in the urine. His father died of cancer of the penis, aged 72, and his mother of natural decay, at the same age. Other near relatives healthy. He declares that he was never addicted to venereal excess of any kind.

History of Present Illness.—In the month of November, 1863, without any known cause or premonitory symptom, he began to lose the power of his right leg. The weakness seemed to commence at the ankle, and gradually crept up to the knee, and was accompanied by partial loss of feeling and a sensation of deadness. About two months subsequently

the left leg became almost suddenly in the course of one day similarly affected, though not to the same degree. There has been no change in condition for the last fourteen months. He has used a few simple remedies, but without benefit; and he did not persevere in their employment, because he thought he would recover spontaneously.

Present Condition.—Body well nourished, firm, and wiry. Skin natural. Feet habitually cold.

Nervous System.—He has no pain in the head nor giddiness. Consciousness and memory perfect. The mouth is drawn slightly to the right; best seen when he smiles. He is sometimes troubled with jerking of his legs. When he attempts to walk, he feels as if he had got a blow on the thighs, and his legs suddenly start up. If he attempt to put one leg before the other, it is sometimes jerked outwards or forwards, and planted rather forcibly on the ground without his control. His gait is that of a drunken man; but although he staggers forward in a rather precipitate manner, yet with the assistance of a stick he manages to get along without falling. When his eyes are shut, however, or when he has no support, he can scarcely move a step without falling; and if his two feet be placed parallel close together, with his eyes shut at the same time, he falls over as if he had no idea of the perpendicular, and has to be supported. He does not think his legs have wasted since the commencement of his attack. Speech quite unaffected. No abnormity in the spine.

Organs of Sense.—The left pupil is a little larger than the right. Taste unimpaired. There is partial anæsthesia in the right leg. He has sometimes stinging pains in his thighs apparently depending on the feelings above mentioned. Respiratory, circulatory, and digestive systems healthy. Urine natural.

The treatment consisted in the administration of iodide of potassium, in doses of 3 j. daily. The facial paralysis disappeared; but when he left the Hospital on April 17 he did not appear to walk better, although he himself thought he could.

LOCOMOTIVE ATAXY—TREATMENT BY IODIDE OF POTASSIUM—PARTIAL IMPROVEMENT.

(Reported by Mr. Galloway.)

Jane S., aged 19, domestic servant, unmarried, was admitted into Ruth's Ward, May 11, 1865, complaining of inability to walk.

Previous History.—She has not had robust health since her childhood, when she suffered from scarlatina, typhus, and "remittent" fevers. She had inflammation of the eyes shortly after birth, and they continued

weak for four years afterwards. Her mother died four years ago of cancer of the womb; her father is still alive, and in good health; but he has had three or four attacks of transitory paralysis of one side of the body. Menstruation is regular.

History of Present Illness.—About eight months ago her right knee swelled and became painful. She was treated with tinct. iodin., applied externally; but after some improvement the knee again got worse; and she was admitted into the Surgical wards of this Hospital about a fortnight ago. The swelling of the knee gradually subsided, and she was then transferred to the Medical wards. She now complained of inability to walk, the loss of power being so gradual that she does not remember when she first felt it. She thought that the state of her right knee was the cause of it until it began to appear in the left leg. Before she became unable to walk she had a feeling of weakness across her back, latterly amounting to a dull aching pain. She has suffered for the last two months from a constant headache, like a feeling of weight on the top of the head, with a darting pain, sometimes over the right side near the brow. She feels her sight getting dim, and her eyes growing tremulous.

Present Condition.—Stout and well-made, though not robust. Hair and iris dark. There is slight swelling of, and a feeling of stiffness in the right knee and also in the ankle.

Nervous System.—She complains of severe headache, almost constant, like a weight on the top of her head, and of pain of a sharp darting character over the right eyebrow, and over the right side of the head. There is pain behind her eyes, mostly in the right. She complains, also, of a dull aching pain across the loins. When she walks she staggers as if she were drunk, and would often fall if not supported. She cannot walk at all with her eyes shut, and would instantly tumble down if she had nothing to lean upon. When her feet are put together and her eyes closed at the same time, she immediately falls over. In bed, however, she moves her legs quite well, and has so much power in them that several persons holding them cannot prevent her from moving them. Sensation is unimpaired in both limbs. *Organs of Sense.*—There is a tremulous motion of the eyeballs from side to side; no difference between the pupils, which contract equally to the stimulus of light. Her sight has lately become dim and misty, but she sees moderately sized type perfectly. Respiratory, circulatory, and digestive systems healthy. Urine healthy. Catamenia regular.

Large doses of iodide of potassium were given till July 4, when she left the Hospital relieved of her headache, but with little perceptible improvement in the walking.

Clinical Remarks.—Locomotive ataxy is commonly mistaken for paraplegia. The features of each are so distinct that it is surprising physicians did not sooner recognise the difference. Duchenne's vague definition of locomotive ataxy is, "Progressive abolition of the co-ordination of movement, and apparent paralysis contrasting with integrity of muscular power; these are the fundamental characters of the disease." Trousseau's is more definite, but commits science to what is yet but theory—"A spasmodic neurosis characterised by a want of co-ordination of the voluntary movements, often complicated with disorders of sensibility and partial paralysis." The chief feature of the disease, when fully formed, is, more or less, inability to perform the reflex functions of standing or walking. On attempting to walk the patient finds his legs refusing to obey the ordinary co-ordinating power; they are thrust outwards or forwards spasmodically, and planted on the ground in an irregular way beyond the control of the individual, who is in constant danger of losing his equilibrium. If he succeeds in getting a start he moves forward in a precipitate manner, staggering and stumbling, and is obliged to use a staff to prevent himself from falling. A paraplegic patient, on the other hand, if able to assume the erect posture, drags his legs slowly, but uniformly along, his difficulty being not to control the movements of his legs, but to get them to move at all. The most characteristic differences between locomotive ataxy and paraplegia are the following:—First, *in bed*, the patient with the former affection has complete power over the voluntary movements of the legs, as was well seen in the two cases above recorded, both of whom tossed about their legs with the utmost facility, and defying all attempts to hold them, while in paraplegia the power of voluntary motion is in a greater or less degree lost; secondly, in locomotive ataxy, if the eyes be shut, the patient can no more walk, or even stand, with his feet together than a person can stand or walk on stilts who has never been accustomed to them, while nothing similar is observed, in paraplegia, or indeed any other kind of paralysis. In fact, a patient with ataxy closely resembles a tyro endeavouring to walk upon stilts. These diagnostic marks are, therefore, very important, and ought not to be overlooked. They were well seen in the above cases. A woman affected with paraplegia was brought beside the girl S——, and the differences between them were most striking.

Locomotive ataxy seldom comes on without premonitory symptoms. The chief of these are rheumatic pains, partial and temporary attacks of paralysis, and disorders of urinary and generative organs. The pains are irregular, coming and going, and are generally mistaken for rheumatism. They were so in the girl S——; but that they were not rheumatic

was at once evident from the fact that they were confined to one knee and ankle—a point of some importance, for rheumatic pains of this kind are mostly due to lesion of the nervous system. There does not appear to have been any other premonitory symptom in this girl, except amaurosis, which was, however, but slight, and the excessive pain on one side of the head. Amaurosis is a very common symptom, as also paralysis of the third and sixth nerves, and indeed of any nerve. The paralysis of the ocular nerves is, in general, more persistent than that of others. Transitory attacks even of hemiplegia may occur, and it is singular that the father of the girl S—— was thus affected, although there is no history of ataxy in him. The premonitory symptoms in the man ill.—— were partial paralysis of the left facial nerve, and at one time what looks very much like incontinence of urine. He also had cutaneous anæsthesia, which is a frequent attendant on the disease.

The usual post-mortem appearances found after death in these cases are grey degeneration of the posterior columns of the spinal cord, and atrophy of the posterior roots of the spinal nerves. So long as the posterior columns were believed to be the channel for the transmission of sensitive impressions to the brain, this state of parts existing with little or no loss of sensation, but with loss of the reflex power of standing and walking, was rather perplexing, especially as the anterior columns were free from disease; but since the experiments of Brown-Séquard have shown that the posterior columns have not the office formerly assigned to them, and moreover that section of them causes hyperæsthesia, instead of anæsthesia, together with locomotive ataxy, the pathology is more intelligible. But how does it happen that with atrophy of the posterior roots there is often little or no loss of sensation? The explanation given is, that the hyperæsthesia which would be produced by disease of the posterior columns alone is counteracted by the atrophy of the posterior roots, in which some nerve tubes remain intact, sufficient to account for the persistence of sensation. This may be true, but it is not quite satisfactory. It is to be regretted that the state of the sympathetic nerve has not received the attention it deserves. There seems evidence to show that that nerve has more to do with reflex motion than has generally been supposed. Last year M. Voisin presented to the Société de Médecine of Paris a case of locomotive ataxy of the upper extremities where the cervical sympathetics were found diseased.

An attempt has been made to distinguish locomotive ataxy caused by disease of the posterior columns from that caused by cerebellar disease.

An attempt has been made to distinguish locomotive ataxy caused by disease of the posterior columns from that caused by cerebellar disease.

I am afraid this will be found impossible in practice, at least in many cases. It may be possible to diagnose the locality of the lesion, whether in the cerebellum or in the spinal cord; but that both varieties belong to the same category I have no doubt. For, in ataxy, from spinal disease, we also find sometimes structural change in the optic nerve, the optic tract, the corpora quadrigemina, and the motor oculi, without disease in the cerebellum; and yet in some cases of so-called ataxy, the only lesion found has been cerebellar. The ataxy likewise is not confined to the legs, but may proceed to the upper extremities, or even affect them solely, as in Voisin's case just mentioned. The cerebellar and spinal diseases are, therefore, probably varieties of the same evil, the ataxy being the symptom. And here I may be permitted to quote some observations of Dr. Hughlings Jackson. Speaking of cases of paralysis of one or more cranial nerves, with paralysis of both legs, and no paralysis of the arms, except now and then a little paralysis of the hands or fingers, he says: — "One of three inferences may be drawn from these facts. 1. The symptoms may by some be considered to occur together by a coincidence. 2. That the paralysis of the cranial nerve is the result of reflex action, set up by the disease of the cord which produces the paraplegia. This is the explanation given by Dr. Brown-Séquard. 3. That there is a tract in the higher part of the nervous system which contains nerve-fibres from the legs and not from the arms, or, at least, only from the fingers or hands. Some of these cases resemble, and perhaps are, locomotive ataxy. There is in some a loss of power in walking properly, whilst the legs seem to retain considerable power. This, of course, applies only to those whose sight is merely impaired. When the guiding power in the legs is lost, we use the eyes to direct our movements. Even in health "we lean," says a distinguished physiologist, "on our eyesight as on crutches." Patients who have ataxy, therefore, cannot walk in the dark, or when their eyes are shut. Blindness, following loss of guiding power in the legs, seems then to be not so much a complication as the loss of a similar faculty. But when the patient has lost both these helps to guide himself, it is just possible that he may struggle his way from object to object by touch. But a third unction in the general power to guide movements is frequently affected also, there is numbness of the fingers; so that the power to combine movements in the legs, or to do so in a supplementary way by help of the eyes, or of touch, is lost altogether. This, I think, renders it plausible that there may be in the higher parts of the nervous system a tract of nerve-fibres passing from the legs, fingers (tips) to the corpora quadrigemina for the general purpose of guiding movements in progression."*

* *London Hospital Reports*, vol. i, p. 377.

The prognosis of locomotive ataxy is bad. Patients, if they do mend for a little time, mostly go from bad to worse till they can no longer maintain themselves in the erect posture, and die cachectic. Various remedies have been tried. Electricity and nitrate of silver are favourite remedies with some, but not much confidence can be placed in them. There is this comfort, that the disease may remain stationary for many years.

Note.—The second patient has just recovered from an attack of typhus. The symptoms of ataxy are more developed, but there is now some loss of voluntary power in the legs, probably from extension of the disease to the grey matter.—*Medical Times and Gazette.*

ON THE TREATMENT OF DIPHTHERIA WITH HYPOSULPHITE OF SODA.

By Mr. J. Clarkson Maynard.

Being convinced of the great curative powers of the hyposulphite of soda in all cases of diphtheria, and as it is a remedy that I have no reason to believe has as yet been tried in such cases, a few remarks on the subject may be interesting, and I hope of value to the Profession.

The idea of using this salt first suggested itself to Dr. Tubbs, of Upwell. He says, "My grape vines were diseased, and upon my gardener applying sulphur to them it proved effectual in destroying it. This, therefore, gave me a hint if sulphur would act so effectually upon vegetable, why should it not have the same effect upon animal life? We know it will cure the itch. I therefore determined to try the hyposulphite of soda, and in doing so was much struck with its effects upon the throat in diphtheria. The hyposulphite is preferable, owing to the sulphurous acid not being deposited on the mucous surface, but set free and more easily absorbed."

Shortly afterwards, Dr. Tubbs recommended this treatment to me, and by our joint application we have succeeded during the present epidemic in this neighbourhood in curing, with the exception of one, every case that has come under our care, in number about fifty. We therefore think ourselves justified in making known to the Profession the result of our experience.

The plan of treatment we pursue is as follows:—On first visiting a case, if not very far advanced, and in which only a few spots are visible, the throat is dressed twice a-day with a strong solution of the hyposulphite of soda—viz., ℥ iij. of the hyposulphite, glycerine ℥ ij., with ℥ vj. of water. This generally removes the incipient exudation in forty-eight hours, sometimes in less. But if the case is an advanced one and the

parasitic plant is making rapid strides, we wash the throat well out with warm water by means of one of Maw's flexible syringes. This is alike agreeable and most beneficial to the patient. The affected parts are then dressed with the strong solution, and a gargle of ℥ ss. of the hyposulphite to half a pint of water, with ℥ ss. of glycerine, is given to be used every hour.

The effect of the solution upon the exudation is most marked. It appears to solidify and dry up the false membrane, and when the syringe is again used, which is to be frequently done, the force of water will, if not completely, nearly entirely wash it away. The exudation in this way seldom or ever re-forms, and the patient makes comparatively a rapid recovery. In cases of a graver character, and where there is a larger collection than usual of inspissated mucus, we clear out the posterior nares by means of a powerful curved leaden syringe which is introduced into the nostril. In the putrid stage, and when the unpleasant odour from the throat is very offensive, a small quantity of Condy's disinfecting fluid added to the water with which we syringe the parts has proved of great advantage. I may add that from half a gallon to a gallon of warm water ought, certainly in bad cases, to be thrown into the throat three or four times a-day. The ext. belladonnæ applied externally has proved very useful where there has been much swelling.

In cases of very young children where it is difficult to dress and get at the throat, we give the hyposulphite internally, from gr-j. to gr. iij. every four hours, and allow them to swallow the gargle, which, by the way, they very frequently do without permission. Dr. Tubbs informs me he is now giving to adults gr.viij. every four hours. Port wine, beef tea, brandy, and bark are, of course, given in suitable quantities, and in cases where there was much prostration we have occasionally thrown up, with very satisfactory results, an enema of port wine, beef-tea, and isinglass.

Should any member of the Profession be induced to try this plan of treatment, I should feel much obliged by his giving us the results of his experience.—*Medical Times and Gazette.*

THREE CASES OF CONSTIPATION.

By James L. Carson of Coleraine, Ireland.

In May, 1863, I was called to see Master—, aged about 4 years. He was complaining of intense pain in his bowels, and had a constant disposition to go to stool, but could get nothing passed with the exception of a little slimy, watery-looking matter, slightly tinged with blood. The child was supposed to be labouring under diarrhœa; but the symptoms

did not satisfy my mind on that point, and therefore I passed my finger into the rectum. I found the rectum greatly distended and completely blocked up by an egg-shaped, hardened mass of fæces. The mass was so hard and so large that the child could not possibly have expelled it by the natural efforts. I had no instruments with me, and as the case was urgent, I did not like delay, and therefore I had recourse to the use of a couple of narrow-handled silver egg-spoons. I oiled the shank of one of the spoons and passed it gently over the mass, in the same way as the blade of the forceps would be applied to the head of a child; I then brought the mass down to the orifice of the bowel, and held it in that position till I scooped it away in small piece with the shank of the other spoon. The child was put to bed for twenty-four hours; a dose of castor oil was administered to clear out the whole intestinal canal, and there was no further trouble.

I was asked, in October, 1863, to visit a lady, aged 25 years. She was said to be in a dangerous, if not hopeless condition, from an intractable diarrhœa. A great variety of astringents had been used, but all to no purpose, as the diarrhœa was still going on, and the constitution was nearly exhausted. Fortunately the stools were kept for my inspection. The discharge did not correspond with anything I had ever seen in diarrhœa. It consisted of slimy mucus, mixed with broken-down-looking fæcal matter, in an almost liquid state, and having the tinge and appearance of very dark slate-coloured clay. I gave it as my opinion that, in place of being a diarrhœa, it was a case of old standing obstruction in the bowels, and that the liquid discharges were coming past the obstructing mass, and thus washing away its sides. This opinion was not well received, and it was plainly hinted that I was under a great mistake, as it was a decided case of diarrhœa, which must soon prove fatal if not put a stop to. I then asked and obtained permission to examine the rectum with my finger. This revealed the secret. The rectum was distended to an extent which could hardly be credited, and the pelvis was literally filled with a mass of fæces, which felt as sticky as putty, and so hard that I could make no impression on it with the point of my finger. I had extreme difficulty in getting it broken up without injury to the pelvic viscera. I protected the bowel with my finger whilst I bored and scooped away the mass. The operation required nearly three hours for its completion; and the fæcal matter which was removed half-filled a large chamber pot. A dose of castor oil was given at bed-time; and on my visit next day, I found the pelvis again filled with fæces, which had come down from the colon in lumps about the size of a hen's egg. The patient was not able to discharge them through the anus, and I was obliged to

remove them. When the rectum was emptied, the bowels acted freely from the oil; but the quantity of lumps which came away could not be credited by any person who did not see it. Aperients were regularly administered, the lady was kept to bed for ten days, and the recovery was complete.

I was called to Mrs.—, at 9 o'clock on Saturday night, January 30, 1864. She was suffering extreme pain in the region of the transverse colon. She also complained of a band round her body at that part. On examination of the spinal nerves, I found great tenderness on pressure over the roots of two of them. There was very little, if any pain on pressure over the abdomen, and the pulse was in no way indicative of inflammation. The lady was far advanced in pregnancy. There was a very small, hard motion from the bowels in the morning, but none for four or five days previously. I diagnosed obstruction in the transverse colon, and irritation in two of the spinal nerves. A mustard plaster was applied over the roots of the nerves; an opiate and aperients were administered by the mouth, and copious turpentine enemas by the rectum. On Sunday morning I had a consultation with a brother practitioner in Coleraine, and on Monday with two others from the city of Derry. Suffice it to say, we were all in regular attendance till the following Thursday evening; but although we did everything we could invent, we were not able to procure a motion from the bowels. We could easily feel the obstruction in the colon through the integuments. Our treatment was exhausted, and we saw nothing but death before us. We had tried purgatives, opiates, powerful enemas by O'Beirne's tube, mercury, galvanism, and everything our combined ingenuity could devise; but all to no purpose. As we could go no further, we agreed to persevere with O'Beirne's tube and the opiates, and to give support and stimulants. Our only hope lay in the fact that still we had no active inflammation to deal with. It so happened that on Friday, February 5, the O'Beirne's tube which I was about to use was accidentally broken, and in the emergency, I attached the tube of a stomach-pump. Having marked twelve inches on it, I passed it that length. It just then occured to me, however, that I would pass it on through the obstruction in the colon if I possibly could, as I thought it was the last chance for saving life. When inserted twenty-two inches, it reached the obstruction. I then pushed it steadily, but firmly and cautiously, on for two inches more, when the resistance ceased. A large quantity of warm water was thrown up without difficulty. After the tube was withdrawn it was found to be flattened and bent about two inches from the point. I felt certain I had passed through the obstructing mass, and my opinion was speedily confirmed. In a short time the water came away; the pain in the

transverse colon was gone; there was no longer any tumour to be felt; and the patient said she felt that all was now removed to the lower par of her left side. There was a complete appearance of relief in the countenance. Purgatives were again administered, and the obstructing mass was gradually removed in the form of hardened lumps and broken-down fæculent matter. The recovery was perfect and uninterrupted. The child lost its life, probably from the galvanism, and was expelled by premature labour in about a fortnight. The lady has been in excellent health ever since.—*Medical Times and Gazette.*

SINGULAR CAUSE OF BILIOUS VOMITING.

By W. Koster.

A woman, under treatment in the Hospital at Utrecht, who had for some time been in a cachectic condition, in consequence of carcinoma of the womb, began in the last weeks of her life to vomit matters strongly coloured with bile. This vomiting continued until death, varying in the degree of violence; the patient was at the same time slightly jaundiced. The food and drink which were taken, did not directly excite the vomiting; the vomiting, too, occuring some hours after meals, and characteristic of constriction of the pylorus, was wanting. There could consequently be no suspicion of the existence of cancer of the stomach; moreover, that would not explain the *vomiting of bile.* We had, therefore, to be satisfied with the vague idea of an impediment to the conduction of the bile through the duodenum.

On post-mortem examination, which revealed also the ordinary results of cancer of the cervix uteri, it appeared that the cancerous growth had extended over the body of the womb, and by ulceration had produced a fistula between the bladder and the uterus. In addition a scirrhous growth had formed in the subperitoneal connective tissue of the ligamentum latum, and had extended upwards in the retroperitoneal connective tissue along the vertebral column.

The ureter and the iliac vessels were surrounded by it, but the cavities of these canals were open. Along the aorta the induration extended to the inferior transverse portion of the duodenum. The latter was half way surrounded by the hard mass, and was, as it were, compressed and constricted by it. The little finger could be introduced into the constriction. The coats of the intestine were not perceptibly altered, and surrounding induration had more of the character of an increase of connective tissue with subsequent contraction, than of a true scirrhus, the structure of which, however, lower down, was not doubtful.

The bilious vomiting during life therefore depended evidently upon an impeded, but not absolutely obstructed passage of half-digested food, mixed with bile, through the lower portion of the duodenum. An accumulation of matters mixed with bile in the duodenum was the result. But in the latter stages of carcinoma vomiting is not unusual. In this case the occurrence thereof was greatly promoted by the cause described, and at the same time the explanation of the *bilious* vomiting follows as a matter of course.

TREATMENT OF A CERTAIN FORM OF PARALYSIS OCCURRING IN CHILDREN.

Dr. Wm. A. Hammond relates (*New York Medical Journal*, December, 1865) three cases of that form of paralysis "consisting essentially of fatty atrophy of the muscles" successfully treated by the continuous galvanic current.

The first case was a boy, five years of age, who came under Dr. H.'s care "April 19, 1865, to be treated for paralysis of both lower extremities. During the previous summer the child had suffered from hooping-cough, and when the disease was at its height motion and sensation were suddenly lost in both legs from the hips down. Medical advice was at once obtained, and various measures were in consequence adopted, without any material benefit. Sea-bathing was then recommended, and this was faithfully persisted in for several months, with the result of restoring sensibility to both limbs, and motion to the muscles of the thighs. Since then strychnia had been administered, both by the stomach and by subcutaneous injections, without the least improvement being effected. Upon examination with the æsthesiometer I found the sensibility of both limbs tolerably good. The mercury of a delicate thermometer, the bulb of which was applied to the thigh, stood at 90°, whilst below the knees the temperature was but 82°. The child was able to flex, extend, rotate, abduct and adduct the thighs, and to flex and extend the legs. There was no power, however, over the feet, and upon careful examination I could not find that a single muscle situated below the knees was capable of contracting from strong induction currents. Both legs were atrophied. They were of the same size, being at the largest part six and a quarter inches in circumference.

"Aside from the paralysis the child appeared to be in good health. Its appetite was good; there was no pain, and it slept well at night.

"I directed that night and morning both legs should be put up to the knees in water of the temperature of 110°, and kept there for twenty minutes; that they should then be well rubbed for half an hour with a

coarse towel, and the muscles kneaded for the same period; the child was also to be brought to me three times a week for faradization.

"This treatment was continued for three weeks with but little if any benefit. During this time I had continued to use very strong induction currents for fifteen minutes to each leg three times a week. The machine, which was very powerful, was put in action by a battery consisting of three Smee's cells. The current excited caused the most intense pain, but did not produce the slightest apparent contraction in any muscle. I then determined to make use of the constant current derived from a voltaic pile of one hundred pairs—and consequently possessed of great intensity. The poles were applied first to the tibialis anticus of the right leg. The instant the circuit was made the foot moved up. By continuing the experiment, I found that contractions could be induced in every muscle of both legs. I then had an arrangement constructed for making and breaking the circuit rapidly, and persevered with the treatment daily for a week. During the whole of this period, at every trial contractions were invariably induced in every muscle upon the circuit being made and broken. The warm water frictions and kneading were also continued. I now found that the temperature of the legs below the knees was 86°, and that the circumference was at the former place of measurement, seven and one-eighth inches. The facts that the toes could now be slightly flexed and extended by voluntary efforts, and that there was some little power over the gastrocnemii muscles, assured me that the cure would ultimately be complete. In this hope I was not disappointed. Amendment continued, and on the 17th of August, when I saw the child for the last time professionally, power over all the muscles of both legs was almost completely restored. Very feeble induction currents now caused contraction. The tibialis anticus was still, however, weak; but I have no doubt that by exercise it, as well as all the rest, will become well nourished and strong. At this date the circumference of the legs was eight and a half inches, and the temperature 90°."

This, with the two other cases, presents, Dr. H. remarks, "a fair idea of the action of the continuous galvanic current of great intensity in exciting muscular irritability when it has been apparently altogether lost, so far as other means enable us to determine. After contraction has been well established, and the will begins to assume its power over the affected muscles, I prefer to use the induced or faradaic currents, as being more local in their effects. The continuous current, as I propose to show in a subsequent memoir, does not limit its action to the part through which the galvanism passes, but affects distant regions of the body,

"The voltaic pile of which I make use is one which I devised myself,

and which I find to possess great intensity. It is constructed of perforated zinc and copper gauze cut into square pieces soldered together, and the couples separated by pieces of woollen cloth. It is set in action by strong vinegar, a few seconds' contact of the poles (terminated by wet sponges) with the skin will cause vesication. Its use, therefore, requires caution. It cannot be applied to the face, or any part of the head and neck to which the fifth pair of nerves is distributed, without risk of causing great disturbance of vision and perhaps blindness from over-excitation of the retina."

SYCOSIS CURED BY SULPHATE OF SODA.

By J. Y. Dale, M.D., Agricultural College, Pa.

In August, 1865, I was consulted by T. W., aged 23, a returned soldier, who had *sycosis menti*, which extended over his chin and the left side of his face. Having read of the influence of sulphite of soda on diseases of cryptogamic origin, it occurred to me that this would be a very good case in which to try its effects. I therefore prescribed for him as a local application sodæ sulphis gr. xl, aquæ ℥ ij, glycerinæ ℥ j, M., which was to be used frequently; and I directed him to keep his beard closely trimmed, but not to shave. In four days not a vestige of the eruption remained. The same remedy has proved equally effectual in three cases treated since then.

ON THE NATURE AND TREATMENT OF CHILBLAINS.

By Henry Samuel Purdon, M.D., L.R.C.P.Ed., L.R.C.S.I., Physician to the Belfast Dispensary for Diseases of the Skin, Assistant Physician to the Belfast Charitable Infirmary, &c.

Chilblains are an inflammatory state of the cuticle arising from exposure to cold, *Dermatitis congelationis*, as Hebra calls it. Now the specific inflammation (if I may so term it) that causes chilblains extends to the deeper structures of the corium, frequently to the cellular tissue beneath it, and is not primarily subcutaneous. In chilblains, like other inflammations, we have increased vascular action, followed by subcutaneous infiltration.

This affection is ushered in by a feeling of heat and itchiness, combined with redness and swelling of the affected part; the sensation of itching is aggravated by warmth. In some cases vesicles make their appearance, accompanied by a weeping of serum, being a typical eczema of Wilian; in other instances by numerous fissures, the eczema fissum of

Wilson, eczema rimosum of McCall Anderson, eczema fendill of the French. When the disease passes this stage, suppuration usually takes place, eventually ending in painful ulceration; indeed, cases have been recorded in which the integument covering the bone has completely sloughed off.

Chilblains are most frequently met with in children and females of a cold lymphatic temperament, and already several cases have been admitted at the Belfast Dispensary. This affection commonly appears on the fingers, toes, and ears, arising from exposure of these parts to cold when being imperfectly dried after washing.

Towards the prevention of chilblains in those who have been subject to them, bathing the hands or feet, as the case may be, in cold water, to which some vinegar has been added, and afterwards brisk friction employed, tends considerably towards keeping the parts in a healthy state.

In the majority of the prescriptions given by authors for the cure of this complaint rectified spirit enters largely. Tincture of arnica, on the same principle, by lowering inflammatory action and causing absorption of any effusion that may have taken place, is extremely useful in unbroken chilblains; but my favourite prescription is that of Marjolin's, and which seldom fails:—

℞ Balsami Peruviani, ʒ ss.
Spiritus rectificati, ℥ iss.

Dissolve, and add

Acidi hydrochloridi, ʒ ss.
Tinct. benzoini. comp. ℥ ss. M.

A little of this is to be rubbed occasionally into the affected part, or if preferred by the patient, a small piece of linen can be moistened with some of the above and applied to the part; a sensation of smarting is usually experienced for a few minutes.

When the chilblain is broken, I find the calomine ointment (Turner's cerate) a very good dressing, and if thought desirable to stimulate the part we may combine it with equal parts of elemi ointment.

If ulceration has taken place the nitrate of silver should be freely used.

Belfast, November, 1865.

THE CHOLERA AS IT APPEARED AT THE PORT OF NEW YORK IN 1865.

By J. Swinburne, M.D., Port Physician.

The "Atalanta," an English mail steamer, iron-built, of 325 feet in length, and 36 feet beam, with two first and second cabins fore and aft on

the deck, and three separate steerages of 98, 80 and 70 feet in length, and 8½ to 9 feet in height, sailed from London on the 10th of October, with a full cargo, and 28 cabin and 12 steerage passengers. London was at that time perfectly healthy. On the 11th she arrived at Havre, remaining only one day and receiving 24 additional cabin and 540 steerage passengers, mostly from Switzerland, the southern part of Germany and eastern France, all, with few exceptions, passing through Paris on their way to Havre, some remaining only a few hours, others for days in the Metropolis, where already at that time cholera was reported to prevail, though to a limited extent and a of mild type. Among these were two families from Germany, who remained a day at the hotel, "*City of New York*," at Paris, and five days at the "*Weissen Lamm*," and "*Hullgarder Hof*," in Havre. While at these hotels, emigrants who had arrived only a few days before them were taken ill, visited and attended by government officials, and by their orders sent to the hospitals.

The "Atalanta" sailed again on the 12th of October. On the 13th the first death from cholera occurred in the person of a little child in the family from the "*Wiessen Lamm*." On the 14th, 16th, 18th, 19th and 22d, five deaths from cholera occurred in one family from the "*Hullgarder Hof*." On the 22d, a friend of the family, also from the "*Hullgarder Hof*," but in the 2d steerage, sickened, and died on the 24th. On the 28th, the first cases occurred in the 3d steerage; 3 of the emigrants from London were taken ill on the 30th, all of whom, however, recovered. When the *Atalanta* arrived, the surgeon of the steamer reported 60 cases of cholera and 15 deaths during the passage; two more died after her arrival in port, and 6 out of 42 cases admitted on board the hospital ships, making a total of 102 cases and 23 deaths. Of the 42 cases treated in the hospital, 22 were admitted on the 6th; six on the 7th; two on the 8th; seven on the 9th; two on the 15th; three on the 16th; one on the 19th. From the first case, the disease presented the uniform symptoms pathognostic of Asiatic cholera, and although in comparatively few cases terminating fatally, the same virus produced the milder forms of disease which destroyed life in 24 or even in 12 hours.

The "*Hermann*," which sailed from Havre at the same time with the Atalanta, arrived at the lower quarantine on the 26th of November. The physician in charge reported 7 deaths—4 children, 3 adults. The former he reported to have died of diarrhœa and inanition; the 3 adults of disease of the heart, inflammation of the bowels, and premature parturition after a few days illness. Singular, however, that the first death occurred in the very family who had lost the mother at the *Hullgarder Hof* at Havre, and whose disease and death, after 36 hours' illness, the

illiterate peasant, her husband, so graphically described, that no doubt whatever could exist, that she died of cholera asphyxia. The "*Celia*," of the same line of steamers, arrived on the 20th from Havre with 360 passengers of the same class, and from the same region of country, but no case of sickness or death was reported during the passage and on arrival. The "*Mary Ann*," an American bark, from Havre on the 25th of October, arrived on the 12th of December. The captain reported 5 deaths during the passage, 4 from cholera; the first died on the 28th of October, the 3 others on the 3d, 4th and 5th of November, after an illness of one to two days duration. On a small vessel, with a deck scarcely 6 feet high, and crowded to its utmost capacity, and without any special care or prevention, the disease disappeared, and all on board enjoyed good health for 30 days previous to her arrival in port. The "*Harpswell*," which sailed on the 28th of October, a few days after the "*Mary Ann*," lost 7 infants during the passage, but no cholera cases occurred. Equally exempt were the two first class steamers "*Europe*" and "*America*," with passengers directly from Paris, where the majority had resided for some time previous.

That cholera prevailed in Paris, and to some extent in Havre, has been admitted by all, and what is still more significant, the "*Atalanta*," "*Mary Ann*," "*Hermann*," and "*Harpswell*," had each names on the passenger list which were not among the passengers, but reported to have been sent to the hospital by the local authorities at Havre. The clean bills of health were unquestionably issued by the same spirit which reported 200 cases at Paris at a time when upwards of 300 daily died of cholera.

Although the appearance of cholera was not unanticipated in the port of New York, no facilities whatever were prepared for an efficient quarantine. The *Atalanta* was immediately, upon arrival, sent to the lower Bay, the surgeon of the vessel relieved, and as soon as the hospital-ship could be prepared and the weather admitted of the removal of the sick, they were all, and as they occurred, transferred to the hospital-ship; the baggage of the passengers was opened and aired; the soiled linen washed, and baggage, bedding, and personal effects of every kind subjected to fumigation in cool chambers prepared for that purpose. This fumigation was effected by a mixture of black oxyd of manganese, common salt—equal parts, well moistened—and the addition of sulphuric acid, one part to four. The generation of gas was so abundant that one of the hands of the boat could only be restored with difficulty and after hours' attention, from the effects of inhaling the gas, four hours after fumigation had commenced.

The quarantine of passengers has been decried as barbarous and inhuman; and certainly none would be more anxious to grant them better accommodations than the officer in charge. When we, however, consider that the disease is not in the vessel, but among her passengers, and will necessarily accompany them wherever they ago, that the accommodations on board the vessel, if scanty, are at least adequate to their wants and such as they are accustomed to, the neglect of the authorities to provide proper accommodations, though not less flagrant, was at least shorn of its alleged inhumanity and barbarity; in fact, that debarcation does not eradicate the disease, any medical man will admit, and as an instance in proof, I may mention the case of the "*North America*," in 1854. Cholera existed on board of that vessel two weeks before her arrival in port. Ten of her passengers had died during that time, and 7 cases were sent to the hospital on her arrival. The day following, all her passengers were landed. In three days, 128 cases and 32 deaths occurred among 250 passengers, while the crew remained perfectly healthy, and no new cases could be traced to the vessel. The passengers of the "*Atalanta*" received pratique ten days after the occurrence of the last case, and the vessel, a few days afterwards, was thoroughly cleansed and repeatedly fumigated.

As facts are the only true basis of inference, I have limited my observations to simple recital of facts. Facts alone can guide us in a practical rational quarantine, and however much even medical men may differ as to the mode of its administration, all, I think, must agree upon the necessity of quarantine, both of sick and exposed.

DIABETES IN A MONKEY.

Dr. Bérenger-Féraud recently related to the Société de Biologie a cased of diabetes in a monkey. Being well aware of the liability to tubercular disease among animals brought from warm regions, he attempted to find the result of modifying their aliment; and for this purpose gave to two monkeys food more rich in nitrogenous matters than that which they ordinarily use. One of the animals refused to eat animal food, and soon died of acute tubercular disease. The other readily ate it; and at first appeared to thrive. But, during apparently flourishing health, and a full supply of rich food, the animal became rapidly lean; and was troubled with unappeasable thirst. The urine increased in quantity, and left by evaporation a residue recognizable by chemical tests as glucose. Amaurosis and convulsions supervened; and the animal died three months after its arrival in France.—*Gaz. Méd. de Paris* and *Brit. Med. Jour.*

Surgery.

CASE OF LIGATURE OF THE EXTERNAL ILIAC ARTERY.

(Under the care of Mr. Adams, London Hospital.)

On November 17, Mr. Adams tied the external iliac for the cure of an aneurism of the common femoral artery. The case was that of a woman, aged 53, and was peculiar from its being supposed to have originated from a kick in the groin received three years ago. A swelling resulted from the violence inflicted, and remained stationary until five months ago, when it began to enlarge until it increased to the size of two fists, and extended into the pelvis at least three inches. The limb was much swollen and very tense in some parts, owing to the pressure upon the vein. The minute capillaries of the skin were much distended.

An incision of at least five inches was made in the usual situation, and the layers of abdominal muscles and the fascia transversalis were carefully divided, and the artery was readily secured.

The case has progressed satisfactorily to the present time (Dec. 23,) the tumour has much diminished, and the leg has returned to its natural shape and size.

The ligature came away on the twenty-ninth day.

STRICTURE OF THE URETHRA OF TWELVE YEARS' DURATION, INFILTRATES OF URINE, ABSCESS IN PERINÆO, SUBSEQUENT FISTULOUS OPENING, IMMEDIATE DILATATION. CURE.

By Barnard Holt, Senior Surgeon to the Westminster Hospital.

R. B., a labourer, was admitted August 10th, 1865. He had suffered from stricture for twelve years, and for some time previous to admission had only been enabled to pass his urine in drops. The late Mr. Brown of Stratham, under whose care he was, failing to get any instrument into the bladder, sent him to the hospital; upon admission it was found he had infiltration of urine to a great extent, there had been a large abscess in the perinæum through which the urine escaped freely, his general health was much damaged, and he was much emaciated. I endeavoured to pass a small catheter, but upon several occasions I failed to get beyond the first stricture, which was in the spongy part of the canal, I, however, eventually succeeded in passing the smallest sized gum elastic catheter through two other strictures into the bladder. This was fastened. Upon the following day I succeeded in introducing a larger size, and eventually I passed the dilator and split the strictures, which were very dense and offered considerable resistance to the tube. This being the largest size

the urethra would take, the urine was removed upon the first four occasions by the introduction of the catheter, and the after treatment was properly carried out. The fistulous openings speedily healed; the man could pass his water in a full stream, and his health greatly improved. He now only requires the passage of the No. 10 bougie once a month. This was another example out of many that have been already recorded of the rapid manner in which an obstinate and complicated stricture might be at once relieved, and the patient be speedily restored to health; it was also a good example of the rapidity with which urinary fistulæ will heal with retaining any instrument in the urethra, so soon as the urethra is restored to its natural dimensions.—*Dublin Medical Press and Circular.*

ACCUPRESSURE.

The Medico-Chirurgical Society of Edinburgh held its first meeting on Wednesday, the 18th November. A paper was read by Dr. W. B. McKinlay, on the much debated question of "Accupressure." Dr. McKinlay occupies the positions of Surgeon to the Infirmary and Surgeon of Police in Paisley, and has been able to test, in a large and valuable experimental field, the advantages of accupressure. The opinion he has formed of its applicability to Surgery, major and minor, may be best understood by repeating his statements that he now, as a rule to which there are extremely few exceptions, employs accupressure in his Hospital practice, and that his pocket-case for private and police practice contains no other hæmostatic except the means required for accupressure. He finds, generally, that secondary hæmorrhage is now never met with by him, that all his operations are brought to a termination more speedily than before employing this agent, and that it has not been a cause of pyæmia, as this has never been seen in Paisley within his experience. Dr. Patrick Watson, one of the Surgeons in the Edinburgh Royal Infirmary, spoke warmly in favour of accupressure. At one time one of its most determined opponents, he had been induced to give the method a trial, and was so firmly convinced of its superiority that ligatures are now very rarely used by him. He spoke of its great advantages in excisions, even of the knee, and instanced a case of castration where complete recovery occurred on the third day. Professor Simpson, in a speech of considerable length, referred to various objections, which he attempted to combat, especially complaining that some Surgeons had ignorantly modified his method in a manner which completely annulled the advantages claimed for it, by forgetting the short time the needles should be retained. He announced his firm belief that accupressure, or, possibly, some more

perfect method of avoiding interference with healing by the first intention, was certain rapidly to extend and instanced Aberdeen, where all the Hospital Surgeons, except one, employ it alone. At this meeting it appeared a significant fact that only one gentleman, Dr. Gillespie, attempted to hint that the method by ligature had been unfairly decried, and acupressure extravagantly praised. A large proportion of the Medical Profession in Edinburgh, we are morally persuaded, are not inclined to occupy the position of exclusive advocates of either method, but rather that *milieu* which is so often *juste*. It appears as yet the only logically tenable position when, on the one hand, we refer to the favourable experience of Paisley and Aberdeen; and, on the other, to the more than doubtful experience of Carlisle and Liverpool.—*Correspondence Med. Times and Gazette.*

Midwifery and Diseases of Women and Children.

THE MANAGEMENT OF THE THIRD STAGE OF LABOUR.

By Dr. H. Eastlake.

Having briefly described the opinions which existed amongst the accoucheurs of times gone by, the author proceeds to give an account of the modern views and principles which govern the placental stage of labour, Dr. Eastlake lays great stress upon the hand being placed firmly on the fundus uteri at the moment the child is being expelled, the uterus being thus followed down, and the contraction maintained by gentle pressure. He states that external manipulation, judiciously applied, was, in the majority of instances, quite sufficient *per se* to effect the expulsion of the afterbirth, without any traction whatever on the funis. He believes that the great secret is to exert the pressure during a contraction; in short, to act in unison with nature as we did in the application of forceps, where we applied our chief force at the moment of a pain. Dr. Eastlake says he had no doubt that many would imagine that, after all, this was no modern idea; but he demonstrates that this teaching was not definitely described and insisted on in our manuals of obstetrics. Dr. Credé, the Professor of Midwifery at Leipsic, appeared to be the only one who had advocated this doctrine and brought it prominently before the profession. The author next considers the subject of retained placenta, and alludes to the various causes which arrest nature's process of extruding the afterbirth. The three steps in the natural expulsion—namely, (1) the detachment from the wall of the uterus, (2) its extrusion from the uterine cavity, and (3) its expulsion from the vagina—are duly

recognized and dwelt upon. Regarding the subject of morbid adhesion of the placenta, Dr. Eastlake throws out a suggestion as to the possibility of being able to diagnose this condition by means of auscultation. He reasons by analogy in stating that for a long time he had been fully persuaded that by means of auscultation we often possess not only a negative but a positive sign of fœtal death. He describes a peculiar modification of the uterine *souffle*, which to his ear was very characteristic when fœtal life had been extinct for any time. The alteration in tone suggested the idea of a muffled sawing noise, very different to the gentle blowing murmur heard in normal cases, where a living child existed in utero. How soon the modification took place the author is unable to state, from want of sufficient field for observation. He considers that no ergot of rye should be given in cases of retained placenta, unless we were quite sure that no abnormal adhesion or irregular contractions existed. In cases of spasm of the os uteri, where the placenta became encysted, the administration of chloroform is recommended. Another point of interest alluded to by Dr. Eastlake, bearing upon the subject of his paper, is the occasional existence of a supplemental afterbirth, which was spoken of by Dr. Barnes, Dr. McClintock, and other authors, under the name of *placenta succenturiata* or *placenta spuria*. Dr. Eastlake has seen a specimen of such an afterbirth in the museum of the Lying-in Hospital in Dublin, obtained from an ovum of five months. When such a mass remained in the uterus after the true placenta had been expelled, it often gave rise to secondary hemorrhage, and an impression arose that due caution had not been exercised in the extraction of the afterbirth. He agrees with Dr. M'Clintock that, remembering the possibility of such an occurrence, we should be slow to utter any opinion which would damage the character of a professional brother. In conclusion, the author alludes to the several conditions which generally authorize us to have recourse to a speedy removal of the placenta, such as post-partum hemorrhage, convulsions, rupture of the uterus, and possibly, under certain circumstances, where the uterus was inverted, with the afterbirth still adherent – (*Proceedings of Obstetrical Society of London.*)—*Medical Times and Gazette.*

Munificent Gift.—The sum of £20,000 was, on the 23rd January last, presented to the Middlesex Hospital, through the chairman of the weekly board from an anonymous donor.

Madame de Castilnau, wife of the French Consul at Singapore, asserts that she has discovered the animal which causes cholera. *It is a "winged leech."*

Mr. Henry Thompson has received the appointment of Surgeon-Extraordinary to His Majesty Leopold II., King of the Belgians.

Canada Medical Journal.

MONTREAL, FEBRUARY, 1866.

We give below some very interesting details of the prevalence of epidemic cholera in Paris, during the past four months; and however much may be said of the severity of the disease, it does appear that the Parisians have suffered very lightly, when it is recorded that, during the existence of the epidemic, from the 15th September to the 15th January, or 122 days, 6388 deaths only have occurred in the Department of the Seine—this, in a population of over two and a half millions of inhabitants, gives an average of two deaths per day among 100,000 inhabitants. If we take as an average 120,000 inhabitants for our city, and suppose that the epidemic, if it does prevail during the coming summer, should remain four months, it follows that, with a like mortality, we must lose something less than 300 inhabitants by the scourge. This is all too many; but still it is a cheerful prospect, inasmuch as our mortality, taking as an example the experience of former epidemics, was somewhere in the neighbourhood of eight times as many. The corporation of our city have at last decided on the appointment of a health officer, and we do hope that no narrow-minded policy will be adopted, either in the appointment to be made, or the work to be done. The services of the very best man should be secured, and his action should be untrammelled; no interference of the Health Committee should for one moment be permitted. The health officer, to be of use to the community, must be a person of sound judgment, untiring exertion, and his will should be law in all things appertaining to the department over which he should preside. If the health officer is to be the paid officer of the Health Committee—to be their servant, to do as he is told, go where he is sent, and act in all things under instruction of the Health Committee, then we say his usefulness will be rendered nugatory, and the benefit to the city of no effect. We believe in the necessity of a house-to-house visitation. No man should be spared—be he land owner or tenant, city father or employé. Let all be placed under the ban if necessity requires it; and not alone by imposing

a fine, but force on the people the adoption of common cleanliness about their houses and premises. Pigs—we do not mean all animals which come under that designation—we confine our remarks to the porcine tribe—pigs, we say again, should not be permitted to be kept in the city environs. Animals, of whatever kind, if kept, should be in well-ventilated stables, and manure heaps should be removed every three or four days, with the house refuse. Back lanes require to be carefully and rigidly watched, and all accumulations of filth should be speedily removed. The means of flushing our sewers is at hand. With our water-power there should be at least the possibility of cleansing drains. Much might be said about sweeping and cleansing the streets. This is a necessity which our Corporation should strictly attend to; otherwise we would advise the health officer to summon the Mayor and Corporation before the Recorder, and convict them for nuisance. All these things have to be done, and done effectually. To meet the exigency, the city should impose a special tax. Let there be no lack of means or of men to do the work which is before us, when valuable lives are at stake; and if the cholera should come, we will be found in the very best condition to cope with the fell destroyer.

Cholera in Paris.—The return of the Board of Health at the Prefecture of Police, and officially communicated to the Academy of Medicine, gives the following results of the epidemic, from its commencement on 15th September up to the 15th January, when it finally ceased; no case having appeared from that date to the 27th ultimo:

Admission to Civil Hospitals	2,865
Cases occurring in Military Hospitals	707
Deaths in the Civil Hospitals	1,844
Deaths in the Military Hospitals	162
Deaths in private houses in the 20 arrondissements of Paris	3,837
In the Rural Communes	545
Total deaths	6,388

During 122 days, from the 15th September to 15th January, there were, in round numbers, 52 deaths daily, from cholera, in the Department of the Seine, or, in other words, there died two persons per day out of every 100,000 inhabitants. On the 14th October was recorded the highest rate of mortality, 230 persons having succumbed to the disease; after that date the epidemic slowly but steadily declined, and rapidly disappeared after the second week in December.

OUR CITY COUNCIL.

Organized bodies are proverbially slow to move, and hard to keep in motion, when once started. Hence our astonishment is not great at the perfect state of quiescence in which we still find our City Council, notwithstanding the continual thundering which has sounded in their ears, for several months past, in the journals of this city, from the long editorial of its chief writer down to the hurriedly written, but no less sincere few lines, of its least known correspondent. On our part we have not failed to impress upon those having in charge the sanitary condition of the city, that everything pointed towards a re-visitation from that much-dreaded scourge Cholera, and once again we would raise our voice against the all but criminal apathy in which they seem to be sunk. In a few weeks spring will be upon us, and a March sun pouring down its powerful rays, decomposing the immense quantity of vegetable matter, which careless housekeepers have thrown from their dwellings. If action is to be taken, and there is not a shadow of doubt but that it certainly ought to be taken, not a day should be lost. From actual observation we hesitate not to assert there are portions of this city so filthy, that should the dreaded disease visit us, it will attack such districts with a virulence which only those who remember how previous epidemics visited certain portions of our city, can thoroughly understand. We sincerely trust that at the very first meeting of the new City Council the matter will be brought forward, and pushed to an issue. There must be no more trifling or putting off; the time for action is at hand, and it must be seized upon. If the next two months are lost in inactivity, we do not envy the responsibility which will hang heavy on the shoulders of those whose duty it was to have acted in the matter.

Since the above was written, two meetings of the Council have been held, and at the last one Councillor Devlin, chairman of the Health Committee, moved the appointment of a Health Officer. It was referred to the Finance Committee as it involved a money appropriation, and although no Council meeting has been held since, we have been given to understand that the Finance Committee intend to recommend such an appointment till the first of January next, at a salary of £400. With all due deference to the wisdom of such an important Committee as the Finance, we assure them that their recommendation is considered by those best qualified to judge (the medical profession) as a very foolish one. It is impossible for the city to obtain the services of any gentleman qualified to fill so important a position, for a period of eight months. To obtain a Health Officer of the right sort, the office must be made a permanent one; and we assure the Council there is ample room for the employment of such an official, whether cholera visits us or not. Our

very high mortality, especially among children, is a subject which would engage his attention, and when it is known that a large portion of the mortality of the city is from preventible diseases, the absurdity of appointing a Health Officer, but temporarily, must be seen.

We are informed on the very best authority that there are a large number of cases of small-pox among the Indians at Caughnawaga, and that the practice of inoculation is carried on almost universally by their medicine women—vaccination not being understood, and their prejudices being strongly against its employment. From the proximity of Montreal to the Village of Caughnawaga, and the daily intercourse which occurs between the two places, the presence of the disease to a considerable extent is an important fact; but when we consider that inoculation is performed, the fact becomes so important as to demand the prompt interference of the authorities, to put down a practice which the law prohibits, and against which there is a heavy fine.

We have also heard of other portions of the country where inoculation is performed in preference to vaccination. As this direct violation of a most important statute propagates instead of preventing the disease, we trust that the profession, in places where it is practised, will, in the interest of the public, see that those concerned do not go unpunished. In the meantime we call upon the Government to take prompt action concerning the practice at Caughnawaga.

Dr. Anderson of Quebec has forwarded to us, with a request to publish in the Journal, a very lengthy correspondence which has taken place between himself and the College of Physicians and Surgeons of Lower Canada, on the one hand, and himself and the Royal College of Surgeons, Edinburgh, on the other. While we admit there is considerable of interest in the correspondence, we do not feel there is sufficient to warrant our occupying sixteen pages of our space with it, when its substance may be more briefly stated. The correspondence is opened on the 24th of August, 1865, by Dr. Anderson writing to Dr. Chamberlain, President of the College of Physicians and Surgeons of Lower Canada, drawing his attention to a portion of a report of the late triennial meeting of the College, which appeared in our Journal, stating that a letter had been read from Dr. Sewell of Quebec, complaining that the College had granted a license, without examination, to Dr. Anderson upon his presenting the diploma of the College of Surgeons, Edinburgh—which it has not a right to do—being contrary to the usual practice, and in direct violation of a

bye-law of the College. Dr. Sewell, however, it appears, stated in his letter his belief that both from the Imperial Act and the Provincial Act, Dr. Anderson could have compelled the College to give him a license without examination, and that under these circumstances the granting of the license should have been referred to the triennial meeting when the obnoxious bye-law could have been altered. Dr. Anderson then asserts his right to the license without examination, resting his claim upon the Imperial Act, of 1858, which says: that the holder of any qualification recognised by the Act is entitled to practice "in any part of Her Majesty's dominions," which right is recognised by the Provincial statute in the following words, "But any person who has obtained a Medical degree or diploma in any University or College in Her Majesty's dominions, shall be entitled to such license, without examination as to qualification." The letter concludes by stating that a copy of it, with the report of the triennial meeting, will be forwarded to the Secretary of the Royal College of Surgeons of Edinburgh. On the 28th August, Dr. Chamberlain acknowledges the receipt of the letter, and says, "it will be laid before the College at its next (October) meeting." Then follows a letter from the Secretary of the College of Surgeons of Edinburgh, stating that Dr. Anderson's letter of the 24th of August was laid before the Council, and that they are unable to take any action in the matter, but express very decidedly their opinion that when both the Imperial and Provincial Acts are so explicit, it seems difficult to understand why such obstacles should occur. It advises the party aggrieved to institute a suit to test the legality of the bye-law, and the jurisdiction of the College which enacted it. On the 21st of September, 1865, Dr. Anderson again addressed Dr. Chamberlain, with regard to the following portion of Dr. Marsden's report of the proceedings of the College, presented at the triennial meeting. "A strange anomaly (says the report) exists in the law regulating the practice of medicine, surgery and midwifery, that extends through every act regulating the same, and which calls for amendment. By the act of incorporation of this College, the licence of the board of examiners under the bye-law, entitle the bearer to practice physic, surgery and midwifery; whereas the law permits the bearer of a degree or diploma from Universities and Colleges in Her Majesty's dominions to practice physic or surgery or midwifery, and to obtain a license from the board as a general practitioner, which license the board is bound to grant, thus according a higher qualification to the bearer than he possessed in the place where the diploma was granted, and on easier terms and on more slender qualifications than are exacted from Canadian students." Dr. Anderson denies that a higher qualification is accord d by

the license of the College of Physicians and Surgeons of Lower Canada than is possessed by the holder of a diploma of the Royal College of Surgeons, and we unhesitatingly assert our belief that he is right. The curriculum is equally if not more extended than that of our own College. On the 15th of October, 1865, Dr. Anderson again writes to the Secretary of the Royal College, but the letter is simply a review of what action he has taken, stating, however, that he has heard the obnoxious bye-law was removed. Whether he is correct in this assertion we do not know, for the official minutes (in detail) have not yet been forwarded to us. On the 13th of November, 1865, this letter is replied to by the Royal College, adhering to the view expressed in their letter of September 26th, also stating, "In reference to this very subject I have examined the minutes of the General Medical Council, in which I find that the report of a Committee from which I make the following extract was approved of by the Medical Council on 21st May, 1862. "It is however clear that where restrictions are imposed on practice by local acts, no such restrictions can have any effect on persons who are registered under the Medical Act, Victoria 21 and 22, cap. 90." For our part we do not see that the extract quoted above throws any light whatever on the matter in dispute; here the Imperial and Provincial Acts agree perfectly, and it is simply owing to some strange oversight that a bye-law of the College has been made which conflicts so directly with the Act. We have no doubt whatever in our own mind that the stand taken by Dr. Anderson is the correct one—Gentlemen having diplomas from Universities and Colleges in the mother country, are entitled to their license without examination; and if the bye-law which has created so much trouble has not yet been rescinded, we trust that at the very next meeting it will be erased from the books of the College. Even did our local act conflict with the Imperial one, little benefit could be derived from the extract of the report of the Medical Council, given above, for few licentiates of old country colleges, who intend to settle in the Colonies ever "registered," which incurs an expense of £5, without any comprising benefit to them. We trust that in future all cause of dispute will be removed, and that all will unite with the College in its efforts to raise the position of the profession, and put down quackery which now seems to be making vigorous efforts to eke out an existence.

FIRST ANNUAL MEETING OF THE MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

The annual meeting of the Medico-Chirurgical Society of Montreal was held in the rooms of the "Dispensary" on Monday evening, 15th January,

1866, at eight o'clock. Dr. Hingston, Vice President, in the chair. After the usual routine business had been attended to, one of the Secretaries, Dr. Squire, read the following report of council ;

On the evening of 28th July, 1865, thirty-one members of the medical profession, in regular standing in the city of Montreal, assembled in the "Board of Arts" rooms, in response to a circular signed by Drs. Howard, Peltier, and Hingston, to consider the expediency of forming a Medical Society from among their body. Dr. Sutherland was called to the chair, and after the subject had been freely discussed, it was unanimously resolved, on motion of Dr. Hingston, that it is expedient to form a Society for the promotion of medical science, and for other purposes, in this city, and that the society be named the "*Medico-Chirurgical Society of Montreal.*" A committee of organization was named at that meeting, (on motion of Dr. Howard,) composed of Drs. Peltier, Reddy, Leprohon, Hingston, Craik and Squire, to frame a constitution and by-laws for future guidance. An adjourned meeting was held on the 4th August, Dr. Fraser in the chair ; and again, a week later, (Dr. Campbell presiding,) when the report of the committee was received and considered ; and an original society was organized in terms of law, by the election, by ballot, of Drs. Campbell, Sutherland, Fraser, Beaubien, Trudel, Coderre, Scott, Howard, Craik, Peltier, Bibaud, Leprohon, Reddy, Hingston, Fenwick, Boyer, Lemire, Dajenais, Thompson, F. W. Campbell, Squire, Larocque, Globensky, DesRosier. At a special meeting of the original twenty-four members, held on the 8th August, the following gentlemen were elected office-bearers for 1865 :

President—G. W. Campbell, A.M. M.D; *Vice-Presidents*—E. H. Trudel, M.D., W. H. Hingston, M.D., L.R.C.S.E. ; *Treasurer*—Hector Peltier, M.D., (Edin.) ; *Secretaries*—W. Wood Squire, A.M., M.D., and Dr. E. Lemire—*Council*—R. P. Howard, M.D., L.R.C.S.E.; J. L. Leprohon, M.D.; Robert Craik, M.D.; J. E. Coderre, M.D.; W. E. Scott, M.D. ; and the officers *ex officio*.

At the same meeting, "the laws" were referred back to the council for revision. The first regular monthly meeting was held on 25th August, when the council reported favourably to the by-laws, &c., and Dr. Craik gave notice that at the second monthly meeting he would move their adoption. On the 27th October, the constitution and by-laws were formally adopted, clause by clause, and ordered to be printed in French and English, for the use of members. Although but two months have elapsed since the adoption of the above, three communications of value have been brought before the society : one by Dr. Craik, on Traumatic Tetanus; a Synopsis of a very lengthy paper by Dr. Hingston, on the influence of the Climate of Canada

on Europeans; and Practical Observations on the Prevention of Cholera, by Dr. Godfrey. The discussions arising from these papers have been of a most interesting character, and have been entered into with spirit and good feeling. Several other papers are already promised, and the society will soon be engaged in the consideration of questions of much interest to the profession generally. Of the eighty physicians now practising in Montreal, considerably more than half are members of the society; and the council hope to be in a position to announce at the next annual gathering, that every practicing physician in the city and neighbourhood has enrolled himself among its members. From the promptness with which members have paid their fees, the funds of the society are in a satisfactory state, and the council trust that the society will be enabled to remove in May next to more convenient and eligible quarters.

The whole, nevertheless, respectfully submitted.

The report was unanimously adopted, when the chairman, Dr. Hingston, said:

Gentlemen,—You must all regret, as I do, the unavoidable absence, this evening, of our President, Dr. Campbell, whose presence would alone have been of far more importance to the society, at its annual gathering, than any observations I may have it in my power to make. But particularly is it for me to regret that absence, inasmuch as it imposes on me the duty, as chairman for the evening, of making a few remarks on the state and prospects of this, our young society. It is only five months since it was first organized, and its present state—which cannot be regarded otherwise than satisfactory—is sufficiently made known in the report just read. And now, with what prospects of success do we enter upon a new year in its existence? With eighty physicians practicing within the city limits; and with about twenty more within an area of as many miles; with two flourishing medical schools, three large hospitals, and three dispensaries, there is certainly no lack of *material*, or of minds to mould it into shape. Medical societies exist all over the civilized world. In Germany every little town has its *réunions* of this character, and the medical press of that country teems with original observations of an interesting character. Surely, then, Montreal can have *one* such, where members may meet to discuss matters of professional importance. The organization of a Medical Society is most opportune at the present time, when attention is uneasily directed to the progress of a much dreaded disease on the other side of the Atlantic. It will be the duty of this society, on the one hand, to suggest proper precautionary measures, and, on the other, to calm the fears of those who may be needlessly alarmed. And the views, here enunciated, will find a ready vehicle for expression in the

medical press of this city. There are now two medical journals existing (shall I say flourishing?) in Montreal. The editors of both have expressed their well-founded alarm at the paucity of original matter sent them for publication, and have made frequent appeals for literary aid. In no way can such aid be more easily afforded than by bringing papers, however short, before the notice of the society, where opinions are expressed, oftimes of as great moment as the papers themselves. And these opinions, which cost no labour in their utterance, and which add much to the value of the communications, duly recorded in the pages of the Journals, are the means of affording opportunities of advancing the cause of medical science to those who have neither leisure nor inclination to do more. In this society the harmonious blending of the mixed nationality of its members, enables every one to profit of the different sources, whence each more commonly draws information, and is an additional guarantee of usefulness—as it should be, of cohesion. But, beyond this, medical science recognizes no national distinctions, as it can have no natural boundaries.

The two Secretaries were then named scrutineers, and the ballot for office-bearers for 1866 was proceeded with, with the following result:

President—Wm. H. Hingston, M.D., L.R.C.S.E., &c.; *Vice-Presidents*—R. P. Howard, M.D., L.R.C.S.E.; and J. L. Leprohon, M.D.; *Treasurer*—Hector Peltier, M. D., Edin., (re-elected); *Secretaries*—Dr. E. Lemire, (re-elected); and W. W. Squire, M.D., (re-elected; *Council*—Drs. Craik, Fenwick, Dagenais, F. W. Campbell, and Ricard, and the officers of the society, *ex officio*.

The meeting then adjourned.

MEDICAL NEWS.

Dr. Corrigan, formerly President of the Royal College of Physicians of Ireland, to which office he was repeatedly elected, has received from Her Majesty the dignity of a Baronet of the United Kingdom. Sir Dominic Corrigan is physician in ordinary to the Queen in Ireland, and a member of the General Council of medical education and registration. He has contributed many valuable papers to medical literature on fevers and other subjects. The honour thus graciously conferred has given very general satisfaction not only as an acknowledgment of Dr. Corrigan's eminence as a physician, but as a dignity bestowed on an Irishman who has ever been identified with the people and the advancement of science.

CANADA

MEDICAL JOURNAL.

ORIGINAL COMMUNICATIONS.

On the Exanthemata which have prevailed in Quebec during the past twelve months. By Wm. James Anderson, L.R.C.S.E.

When we consider the important functions dependent on the skin; that through it there transpires in an adult, every twenty-four hours, from thirty to forty-five ounces of matter, and that the diseases which affect it cause one ninth of human mortality, the importance of the study of the Protean forms which the exanthemata present will at once be admitted, especially at the present time, when there is much reason to suppose that they, as well as other forms of disease, have been, and still are undergoing *change of type*. Having already made the exanthemata my special study, I have availed myself of the opportunities lately presented by the prevailing epidemics, of prosecuting my enquiries, and in so doing, I have had the advantage of consultations with several friends, who have afforded me opportunities of observing many cases of interest both in private and Hospital practice, and I now propose to give the results.

Of the primary sources of the exanthemata, we know nothing certain, but it is instructive to mark the gradual expansion in their diagnosis. All of them have sprung up since the sixth century; and the Arabian physicians were impressed with the belief, that small-pox and measles, the only two of the now numerous family, then known, were pathologically associated; and as late as 1687, Diemerbroeck asserted that these two diseases were only different degrees of the same malady; but Sydenham, his contemporary, who had devoted much of his attention to measles, permanently separated small-pox from them (which he designated *morbilli*), and pointed out also the probability of scarlet fever being another distinct disease though the belief of the identity of measles and scarlet fever still generally prevailed, and it was only a century later

that observers recognized them, as two distinct diseases, arising from two distinct miasms.

About the middle of the present century, no less than twelve distinct forms of exanthematous fever, were recognised, and divided into three classes;—first, the greater exanthemata seriously affecting life, viz, small-pox, measles, scarlet fever and erysipelas;—second the lesser, vaccinia, varicella, herpes and miliaria; and third, the simple efflorescence, lichen, urticaria, roseola and erythema. It could not be denied that these bore a certain pathological relation to each other; but it was said that this principle was not more applicable to small-pox and cow-pox, than it was to small-pox and measles, to small-pox and chicken pox, to measles and scarlet fever. "The relationship," says Dr. George Gregory, "may possibly consist in some modification of the elements which compose the morbid miasm, and may be analagous to that which exists between nitrous oxyde and nitrous acid and nitric acid, but is very different from absolute identity." That these poisons were very different, was supposed to be proved by the alleged fact of the body being capable of receiving at the same time, the germs of two exanthemata, which went on *pari passu* or the lesser might be suspended by the greater. It was also noted that when one epidemic diminished, another increased, and that each year was distinguished by some *master* epidemic, and hence the recognition of *vicarious mortality*, by which the blessings of vaccination were to a certain extent counterbalanced. Thus when small-pox ceased, measles prevailed; when measles disappeared, scarlet fever held its fatal sway, so much so, that McIntosh, writing in 1831, says, "The plague is scarcely more dreaded in Constantinople than scarlet fever is in Edinburgh." In 1840 scarlet fever was so general and so fatal, that the mortality exceeded by one fifth the ravages of small-pox. During the epidemic of 1838 we find that under the law of vicarious mortality, the sum total of epidemic mortality, on an average of years, since the introduction of vaccination has remained nearly the same.

In treating of the exanthemata, most of the eminent writers have recognised certain laws as bearing on them, viz:—

1st. Law of contagious origin;

2nd. Law of universal susceptibility;

3rd. Law of epidemic diffusion;

4th. Law of presence and course of constitutional proneness;

5th. Law of the course of the local or cutaneous affection;

6th. Law of non-recurrence.

And in 1851, Dr. George Gregory thus wrote;—"The peculiar steady course of exanthematous fever enables us to predict the result, or, as we

commonly say, to prognosticate in eruptive fevers, with a certainty which it is not permitted us to do, in any other tribe of diseases." Since then, however, circumstances have occurred, which have compelled many greatly to modify the views which they had entertained; and perhaps few will now be found, who would be willing to subscribe the six laws above given. Many now believe with Drake (who gave it as the result of thirty-years' observation) that scarlet fever and measles may be merely *varieties* of the same species, and think that it is quite possible that the same miasm may produce different exanthemata. Many more will be found who repudiate altogether the law of *non-recurrence*, believing, for instance, that scarlatina may be taken not only twice, but many times. It will be my object to shew the bearing which the cases which have recently come under my notice have on the question.

The past season has been characterised by a more than ordinary prevalence of exanthemata, and there are at present epidemic, variola and varioloids, varicella and its several forms. Scarlatina and morbilli of various types, and lastly roseola, many cases of which, I have reason to believe, have been classed under the heads which I have previously mentioned. I shall first select for remark *scarlatina*. It has been very prevalent and very fatal, and so far as I can judge from pretty extensive enquiry, has generally shown a typhoid tendency.

On the 25th of last November, I was asked to see a little boy about seven years of age, at his parents' residence in St. Louis suburbs. There were eleven children from twenty-two to three years of age. The house was not drained, and was badly ventilated, and scarlatina had been some time prevalent in the vicinity. The little patient had hot skin, quick pulse and sore throat; I could discover no eruption, though I suspected scarlatina fever. The mother had given a dose of laxative medicine, which had operated very powerfully. There not being any mustard in the house, I recommended *coal oil* to be applied round the throat, a gargle of chlorate of potass, a soap bath at bedtime and acidulated barley water for drink. Next day I found the throat relieved, no eruption visible, but it could be distinctly felt along the back. Continued the treatment with the addition of chlorinated waters, after Watson's formula. In the evening the eruption showed itself imperfectly, and was of a raspberry hue, more like measles than scarlet fever. On next morning's visit, found he had passed a tolerable night, and that the eruption was pretty freely developed, but the cervical glands were also very much enlarged. There was yet no unfavourable symptom, but having been informed by the mother that she had lost her three first children by scarlatina in one day, and as another of the family a girl of fourteen years of age showed premonitory

symptoms, I asked permission to bring Dr. Moffat of the staff, who had been for some time in attendance on the father of the family, and I had the advantage of his aid and counsel during the whole of my subsequent attendance. Dr. Moffat advised perseverance in the treatment already adopted; and the case, though severe, with typhoid tendency, progressed favourably till the 30th, when there was some retrocession of the eruption, attended with aggravation of throat symptoms and oppression of chest. Solution of nitrate of silver was applied to the throat; a mustard bath and a sinapism to the chest, afforded great relief, and carbonate ammonia and camphor waters were also administered. On the 31st diphtheritic symptoms were presented; the disease had extended from the throat to the larynx; and early on the morning of Dec. 1st, the little sufferer expired suddenly.

In the meantime on the 28th Nov., there appeared on various parts of the body of the girl already mentioned, a dullish raspberry eruption, and the tonsils were swollen and ulcerated, yet she could not be prevailed on to go to bed, being desirous of helping her mother with the other children, several more of whom had now succumbed to the disease. At length an attack of epilepsy, to which she had been for some years subject, compelled her to keep her bed. The eruption continued to extend, and continued of the same dull colour, deepening to a purple when the fits came on, which they did several times a day. It was considered requisite to give ammonia and wine freely, but the disease of the tonsils extended to the larynx, the fits became more frequent, great oppression of breathing, which was only temporarily relieved by the sinapsims, and it was utterly impossible to keep the extremities warm. On visiting her on the afternoon of 5th Dec., I was overpowered with a most offensive smell, which on enquiry, I found proceeded from a profuse discharge of a thick dark *furry* matter from the uterus. The whole surface of the body was mottled and livid and deathly cold, and she expired while I was there. At this time all the children were down with the fever, except the second son, a lad of twenty, and though none of them showed the bright scarlet eruption, and there was a tendency to a sort of erysipelatous action on the tonsils, yet by great attention to the throat, by the frequent use of gargles of chlorate of potass, of hydrochloric acid, of tinct. of capsicum, and by painting with solution of nitrate of silver, and by the internal administration of carb. and citrate of ammonia, and by the frequent application of sinapsims, all fortunately overcame the disease. On the 9th December, a dull miliary eruption began to show itself on the face and forehead of the second son already mentioned; there was only slight sore throat, but great tendency to laryngeal symptoms, with apho-

nia. The eruption extended over parts of the body, maintaining its miliary character and dull purplish hue. He also suffered from severe rheumatic pains, especially of the shoulders, for which it was found necessary to prescribe iodide and citrate of potass. This case also terminated favourably, though the aphonia continued for many days. Three of the cases were complicated with epilepsy, and from the unfavourable circumstances under which we had to conduct the treatment, (eleven patients being confined to two small rooms, communicating with each other) several of the younger children had dropsy, and the elest daughter, nineteen years of age, had sharp secondary fever, accompanied with *blebs*. There were no proper means of ventilating the chambers, and though chloride of lime and Condy's fluid were freely used, the air was so vitiated, that both Dr. Moffat and myself remarked that we could not remain anytime in the chambers, without finding soreness of our throats. In all the cases with the exception of the second one, the anginose symptoms were sufficiently marked to characterise the disease as scarlatina, but in none of them was the eruption such as would answer, either in appearance or course, the description usually given of that exanthem.

The case of the second son might be with propriety viewed as a severe case of roseola miliaris. I may mention that Dr. Rowand was called in to consult, and on one occasion saw eight of the cases, but did not think it necessary to suggest any alteration in treatment. Dr. Marsden, who was called in, on the same occasion as Dr. Rowand, as a friend of the family, also concurred.

I shall advert to one other instance of scarlatina in a family in the same suburb, but residing in a well-ventilated house and possessing every comfort and convenience for health or sickness. I was called on the 8th Jan. last to consult with Dr. Rowand on the case of a fine girl of about twelve years of age, whose case of *decided* scarlatina had been complicated with chorea, with which she was then alarmingly affected, and under which I regret to say she subsequently died. The symptoms of scarlatina in this case had been well marked, as to the angina eruption and subsequent desquamation; but in the cases of two of her brothers, which I had an opportunity of seeing, one much more resembled measles and the other roseola.

I now come to a very interesting case. On Sunday, 28th January last, Dr. Moffat invited me to visit with him, a boy in the same suburb St. Louis. He informed me that some time previous he had been summoned to visit this boy's brother who was about eleven years of age. He found him presenting all the symptoms of some impending exanthem; on inquiry he found that he had been vaccinated, the cicatrices being present.

To his surprise however in a few days the case presented itself as a most severe attack of confluent small-pox, from the crown of his head to the sole of his feet. Under *Stramonia*, administered internally, and solution of nit. silver applied to the face, he made a most favourable recovery, and no pits were left. This boy had scarcely recovered when the baby, a child over one year of age, fell sick: a sort of purple eruption made its appearance, attended with sore throat, which became diphtheritic, and the child suddenly died. Next day the little boy we were about to visit was attacked with high fever and sore throat, but as yet no eruption had appeared. On entering the house we found the child lying in bed, the countenance flushed, but no eruption; however on removing the bed clothes, the whole body was seen red as a lobster. This turned out an unmistakable case of scarlet fever; he had no bad symptoms, and has made a most favourable recovery. The mother has since had a very sharp attack of angina unaccompanied by eruption. Here we have within one month, in the same family, and in the same room, a marked case of confluent small pox; a case of diphtheritic roseola; a most undoubted case of scarlatina, and a case of angina—Were four specific miasms present, or was one specific poison sufficient to produce these different forms of disease?

I may here mention, that in the London Lancet for May, 1845, Dr. Robert Barnes has reported an instance of the infection of the system at the same time, by the poisons of small-pox and scarlatina, in a girl of nine years of age, from whom *varioloid* was communicated to her three sisters, and *scarlatina*, to another girl in the house. From which Dr. Barnes assumes, that a patient affected with coexisting small-pox and scarlatina, may serve as a common focus of contagion, from which either of these diseases may be separately transmitted. Dr. Bickley, the American editor of Dr. Gregory, in commenting on these cases, says, he has not unfrequently seen variola preceded by scarlatina, and also coexisting with it. Mr. Marson, of the London Small-pox Hospital, has seen seven cases and numerous instances of the coexistence of different eruptive fevers—The Md. Chir. Rev., Oct., 1847, contains cases by Barthez, Relliet and Levey, of scarlatina coexisting with variola twelve times, and with morbilli seven times; and since then we have had epidemics of rubeoloid, scarlatina or hybrid.

Morbilli or Measles.—Measles have been very prevalent, but, as a general rule, have not been by any means so fatal as scarlatina. Measles and scarlatina have been, in many instances, present in the same neighbourhood and same family, and hybrid has not been of unfrequent occurrence.

On the 24th January. I was called to visit a boy, fourteen years of age, the son of the gardener at Merton Lodge, two miles from the city. He had been complaining for several days, with what, under ordinary circumstances, I should have been disposed to consider premonitory symptoms of measles, but as he had been in contact with a family with small-pox, I hesitated to say whether it would turn out to be measles or small-pox. On the evening, rubeoloid eruption appeared partially on the face, and epistaxis occurred; there was coryza and very troublesome cough, and pain in the larynx. Coal oil was applied to the throat and chest, steam inhaled, and chlorinated water administered. On the following day, the eruption had extended to the back and thighs, and laryngitic irritation still very prominent. On 26th eruption well out, and undoubtedly morbillious—the laryngitic irritation shown by a very troublesome short cough, being still the most prominent symptom. On 27th eruption disappeared from face: all symptoms ameliorated. On 28th eruption totally disappeared from body. On 30th quite well, only to guard against urgency of appetite. On this day the eruption appeared on three more of the children, and other two and the mother were complaining. On the 31st eruption appeared on the mother and one of the remaining children. In the five children, the measles were fully developed, and ran their course regularly. The mother believed that she had measles before: and recollected that the little boy nine years of age, still unattacked, had had them very severely. This latter continued to lounge about, complaining of headache, soreness of his bones, and *sore throat*, and his face was flushed, and pulse accelerated. Had measles not been in the house, I should have suspected scarlatina; but on the 2nd February, slight miliary purplish eruptions appeared, chiefly on the back thighs, which prevented him from sleeping at night, from a stinging itchiness, which kept him constantly scratching. He had no cough. After the second day the eruption gave no further trouble, and disappeared on the fourth. The body of the mother was completely covered with true morbilious eruption. Coryza was very severe; the eruption on the forehead was the same as that on the body; but on the cheeks, instead of a rash, there had appeared triangular purple blotches, about an inch in extent, attended with intolerable itching, which was readily relieved by sponging with tepid waters. On the evening of the fourth day all the symptoms were alleviated, and the eruption was fading gradually away. On the following morning I was surprised to find my patient with her face swollen with a confluent conoid eruption, and a new and distinct conoid eruption over the whole body. On the following day the eruption was still more developed, and vesicated on the apex. I was alarmed by

a most offensive smell which proceeded from her person, and, on enquiry, I ascertained that it proceeded from the menses, which had ceased on the 17th January, but had unexpectedly returned. The eruption on the body had also assumed a coppery colour. In addition to the chlorinated water, I now prescribed effervescing draughts of carbonate of ammonia and citric acid, and a solution of citrate of ammonia, to be frequently taken.

On examination of the vesicle by the magnifying glass, there appeared a tendency to become pustular, and I was inclined to consider it a case of mild vesicular variola; but on the following day the eruption on the face began to dry, and the skin to crack, and on the sixth day from the appearance of this second eruption it began to desquamate, and the conoid eruption on the body showed under the glass on its apex, a small shrivelled dry scale or rather scab. On the eighth day the face was clean, the conoid eruption could not be felt on the body, but a brownish spot, *not pit*, showed where each cone had been. All fever and uncomfortable feelings had passed away, and nothing further was required but attention to diet. The six children were all treated alike, and required nothing but a simple dose of senna and tartars, and the chlorinated waters. The diet during the eruption was confined to barley waters and sago or porridge.

On mentioning this case to Dr. Moffat, he directed my attention to a case then under the care of Dr. Duff, of the artillery, in the garrison hospital, which, with the permission of Dr. Duff, I have had the opportunity of watching. The man, an artilleryman, had been attacked with all the premonitory symptoms of a severe exanthem, but no eruption for a time appeared; at length a purplish papular eruption appeared round the loins, like a belt. On Friday, 9th February, I visited him with Dr. Duff; the eruption on the loins was beginning to fade, but the face was now covered with a papulo-vesicular eruption, and he was complaining of very sore throat. On Saturday, 10th, I again visited him with Dr. Adset, and on examining the eruption with the aid of the glass, the vesicle was found to contain fluid, which appeared to be thickening, and unless it should terminate as the case I have mentioned, I had no doubt it would become pustular. Sunday, 11th, vesicles becoming pustular. Monday, 12th. On visiting him with Dr. Duff, this morning, the face was swollen with confluent small-pox. A ring of pustules surrounded each wrist and ankle, and looking through the glass several of them showed depressed centres. This man had been vaccinated. This case reminds me forcibly of that which occurred to Dr. G. Gregory and W. Hammond, at Windsor, and which was at first pronounced to be fever; two days

afterwards roseola, and still two days later, small-pox. Such cases have been styled, erythema rubeolasum and variolosum, but I think it better described by the term used by Dr. Erasmus Wilson, viz: *roseola punctata.*

Variola, &c.—Variola, varioloid and varicella have been remarkably prevalent during the past twelve months, and as yet there is no diminution in the number of cases—variola has been both severe and fatal, and varioloid in persons who had been undoubtedly vaccinated has been of frequent occurrence, but I have not heard of any fatal cases. During the past week, I have seen two cases in the Military Asylum, under Dr. Moffat, two little brothers of the respective ages of five and seven years. They are the sons of a soldier, and their mother says they were both vaccinated in early infancy, by the regimental surgeon, and the cicatrices are now quite distinct. Both cases are progressing most favourably, under saracenia and painting with solution of nitrate of silver. Mild and vesicular and vesica pustular variola, have presented themselves in such a form as not to entitle them to the designation *mild*, given to them by Dr. Thomson; and varicella presenting its threefold lenticular, conoidal and globose eruption, has been ushered in with symptoms so remarkably severe, as to warrant the belief, that the disease might be variola; and in some cases, the vesicles so closely resembled, at a certain stage, those of variola, that no one would venture to affirm that they would not become pustular. Many such cases, I have no doubt, have been classed as small pox.

From a review of the present epidemics, I have come to the conclusion, that a very great change has taken place in the character of the exanthemata. Can any one who knows the high powers which Sydenham brought to bear on his investigations and descriptions of disease, suppose for a moment, that if the marked distinction, which at a later period showed itself between scarlatina and morbilli, had been present in his day, that he would have hesitated to separate them from each other, as he did, morbilli from variola. I can have no doubt that the type of continued fever is not what it was thirty years ago; and I believe that the character of the exanthems has changed as greatly within the same period. When small-pox began to disappear, measles and scarlet fever assumed distinctive types, and produced a mortality which had not previously attended them; afterwards they presented themselves in the coexisting or hybrid form, and within the last ten years, roseola—which, on its first appearance, was viewed as a very slight affection, neither deserving notice nor treatment—has assumed an importance and severity which rank it with variola, scarlatina and measles, &c. &c.; the most experienced, at times, finding it difficult to pronounce to which of these it belonged.

During thirty years of my medical life I have seen epidemics which I had no difficulty in pronouncing scarlatina or measles; but after 1838, I have met with numerous cases which I could not conscientiously pronounce the one or the other. And latterly, I think, to find a case which would answer, in every respect, the description either of measles or scarlet fever, as given to us by the authorities thirty years ago, is the exception and not the rule. I am one of those who, without denying the contagiousness of scarlet fever, decline to admit its contagious *origin*. No doubt can possibly exist, that in a very large proportion of cases, scarlatina is produced by contagion; but I believe that many epidemics, and many sporadic cases, are produced without personal contact, or contact with fomites, and that a certain combination of circumstances can develop an eruption possessing *all* the characters of scarlatina. I not only believe this, in connexion with scarlet fever, but also with variola, morbilli, varicella and roseola. All my observations made during ten years, as health officer of the Port of Pictou, N. S., went to convince me, that all these diseases had arisen from causes created on board ship at sea, and had not been produced by contagion from the country of emigration. My later observations incline me to believe, that scarlatina has not its own specific miasms and morbilli another and roseola a third; but that the system being in certain distinct conditions, the *same poison* may produce the disease to which the condition is prone. If this be not admitted, then we must believe that, as one of the instances I have cited, a small room in St. Louis suburb contained, at the same time, four distinct poisons, viz, of variola, roseola, scarlatina and angina. I believe that the types of morbilli and scarlatina have changed and are changing still more; and that under the term roseola, we are presented with varieties of exanthems, daily increasing in importance, which were not dreamed of in the philosophy of the standard authorities of thirty years ago. We can, however, congratulate ourselves that, while the type of disease has changed, the resources of our art are increased; and that though we may be at a loss to classify an epidemic, our sound principles of pathology will lead to no uncertain practice—and that we have at the present time attained a more complete mastery over disease, than was at one time thought possible.

Quebec, 25 St. Genevieve Street, 12th February, 1866.

A Few Thoughts on Puerperal Fever. By Geo. D. Spooner, M.D.

Considering the anxiety the above-named disease excites in the minds of all who encounter it, its frequent fatality, and the obscurity in

which it is yet involved, I presume any remarks calculated to inspire greater confidence in the minds of physicians when contending with it, or which are intended to give a clearer if not a more rational insight of its character, will be quite in order, and not foreign to the object of your publication.

By some, puerperal fever is treated in an unvarying routine, believing the disease to be always essentially the same, and these may be divided into two classes. One class believes the *fons et origo mali* is in phlogosis of one or more of the abdominal viscera, and as might be expected, their treatment is strongly antiphlogistic and depletive; the other believe it to be typhus or adynamic in its nature, and their treatment is stimulant and supporting. Both are right, and both wrong; and he who attaches himself unwaveringly to either, although perhaps apparently successful for a season, will in the end meet with great disappointment. Dr. Mitchell is an unflinching advocate of the former, (see his paper in the fourth vol. Obstetrical Transactions, p. 96.) and his treatment, following Dr. Armstrong, is to bleed to syncope, followed by the administration of large doses of opium and extensively irritating the whole abdominal surface. Having adopted and practised his views, I will give the details of the management of three cases, with their result.

Mrs. F., mother of a large family, aged 35. I was called to see her two days after confinement; she complained of *severe pain* in her hypogastric region, with high fever, pulse 133, and middling as to fulness and force, slight perspiration, dark circle under eyes, sallow complexion; she ascribed her trouble to having taken cold through injudicious exposure. I bled her to incipient syncope, administered hyd. submur. gr. j et pulv. opii. grs. ji every five hours, applied a blister over seat of pain, darkened the room, and enjoined absolute quietude. This was continued for six days, when the pain and fever being completely gone, castor oil was administered—the bowels having remained inactive during this time —which operated well and the patient steadily recovered.

Mrs. C., mother of several children, had an abortion at three months; attended to by an old woman. I found her three days after complaining of *very severe pain* in hypogastric region, with fever and delirium; on examination, found a large putrefying clot in the *os uteri*, which of course was removed. I bled her, although very weak, to incipient fainting, and proceeded as in the other case. In eight days she was able to be up for a few minutes at a time, although at first her life was quite despaired of by her friends.

Several other cases might be mentioned, treated on the same principle, all of which recovered; the prominent symptom and complaint of which,

as in the foregoing, *was the pain in the hypogastric or lower abdominal region*. *But*, last summer, I was called to attend a Mrs. P. in her first accouchement, which was quite satisfactory, except that the pains were weak with long intermissions, necessitating an occasional drachm of the tinct. ergot., and terminated in about ten hours, the patient feeling pretty well exhausted. On the fourth following morning was called to see her, and requested from herself to bring something to quiet the nerves. On arrival I found her nerves quite unsettled—had not slept during the night, nipples very painful—looked depressed and complained of great weakness, dark circle under the eyes—*articulation not so distinct as usual*, which she ascribed to a feeling as of thickness of the tongue; had asked the nurse strange questions during the night during which time the bowels had operated twice; some tympanitis, pulse weak, quick and regular, skin cool and moistened with sweat, *no pain* in abdomen or pelvis, even by pressure. Supposing the trouble to be merely of the nerves, I prescribed morph. acet. and spirit ammon. arom. with rest and quietude, and solution of gutta percha tissue in chloroform for nipples. The second evening after, I was called to visit her again, and on arrival about 8 o'clock, to my great surprise, I found her quite incoherent and much prostrated—high fever, skin hot and dry, tympanitis much increased, tenderness of hypogastric region, patient very weak, she thought she was improving, &c. Treatment as in other cases venesection to ℥ 12, sinapism to hypogastrium, pulv. opii. gr. j, et hydr. submur. gr. j every four hours, quietude, &c.

Next morning at 5 o'clock, was called again in haste, but on my arrival at 6 o'clock, she had expired. The nurse said she *complained of nothing, but gradually sank*.

I will leave your readers to draw their own inferences as to the treatment and the result; but for my part, if I ever have another case of this kind, the treatment will be of an exactly opposite character.

From the foregoing it must be evident to all unbiassed minds, that the types of two diseases were met with, which are very different in their symptoms, and require altogether different treatment; and consequently, that there is a radical error in the nomenclature of these puerperal complaints. According to the classification at present in vogue, every inflammation of almost any organ of the body, contracted from delivery to seven or ten days after is called puerperal fever—pleurisy for instance; and this fever was formerly described as being almost uniformly fatal. Now, however, the vast majority of this so-called fever recover. This improvement cannot be owing to a difference of treatment, as that which is now the most successful was practised to even a greater extent

formerly; but is explicable on the assumption, that the puerperal fever of the ancients, which was almost uniformly fatal, is now made to include their disease, and which yet retains its pristine malignity, and a great many other diseases of a simple inflammatory origin, and quite amenable to antiphlogistic treatment. It seems to me, therefore, that there are included under this specific term two fundamentally different diseases, viz: One having its origin in inflammation of one or more of the organs, usually those of the abdomen or pelvis, apparently in consequence of the ordinary exciting causes of inflammation—neither contagious nor infectious,—may prevail epidemically, as other inflammations sometimes do, pneumonia for example, and is quite under the power of well directed antiphlogistic medication; and a *specific fever*, which has not its origin in inflammation of any of the organs but which may secondarily set up disease therein, is contagious and extremely fatal, requires a stimulant and supporting treatment, but which usually defies all medication. Dr. Churchill is one of those who favour the inflammatory theory, and he divides it into five varieties, depending upon the part inflamed, and recommends antiphlogistic treatment; but also states, with Dr. Tyler Smith, that cases occur without any inflammation manifested before or discoverable after death, and confesses that the latter are very fatal.

It is evidently wrong to include under and apply one specific name to a great many different diseases, particularly if the name be the name of one of the symptoms, because its tendency is to lead to routine, and to distract the attention from the true pathology. There is a strong tendency to treat the same disease in the same way under all circumstances, bearing a difference of degree; so, if one specific term be applied to the exanthematous affections, one can readily imagine what the treatment would be; the body would be kept warm as it should be in rubeola, or cool as it should be in variola, and the result would necessarily be disastrous. This generalization is injurious to the student, because having his mind impressed with the great mortality from puerperal fever, he is, in its treatment at first, anxious and meddlesome; but having had several cases as it ordinarily occurs, and conducted them to a satisfactory issue, he falls into the error of thinking he has hit upon the hitherto undiscovered means of successfully combating it, and his anxiety gives way to ill-grounded confidence and routine; but after awhile a true representative case of the malady occurs, and the patient becomes a sacrifice before he knows what he is about.

Clarke, C. W., Feb. 1866.

The Optical Defects of the Eye, and their Treatment, by the Scientific use of Spectacles. By A. M. Rosebrugh, M.D.

(*Read before the Canadian Institute, February 3rd*, 1866.)

The following pages were written as an introduction to a course of lectures recently delivered by me on the diseases of the eye. I have not thought it necessary to alter the form, as I propose publishing them as a pamphlet, hoping that they may be useful, not only to the members of my ophthalmic class, but to Canadian medical students generally.

In their preparation, I must here acknowledge my indebtedness to the elaborate works of Mr. J. Z. Laurence and Mr. J. Soelberg Wells, of London, and especially to the very comprehensive treatise of Professor Donders, of Utrecht, published in 1864, by the New Sydenham Society.

Chapter I.—Optical Considerations.

The eye is pre-eminently an optical instrument, and the phenomena of vision all depend upon the laws of optics. Hence, a knowledge of some, at least, of the elementary principles of light is essential to a correct appreciation of the physiology of the eye. The diagnosing of optical defects of the eye.—long and short sight, &c., &c., and their treatment with the scientific use of spectacles, require some knowledge of the laws of refraction, and the properties of convex and concave lenses.

The philosophy of the ophthalmoscope can hardly be understood unless the principles of both refraction and reflection are thoroughly mastered.

You will, therefore, I hope, not consider the time ill-spent if, before proceeding with the investigation of diseases of the eye—you review with me some of the elementary principles of optics which lie at the foundation of all ophthalmic science.

The *nature* of light is not known. I can no more tell you what light is, than your professor of physiology can tell you what life is. We know that the sun shines, but how it shines we cannot tell.

"Two different theories have been advanced of the more intimate nature of light." "One, the *Newtonian* (*corpuscular*) conceives that each luminous point is constantly giving off a succession of luminous corpuscles which follow each other in uninterrupted succession on an imaginary line or axis like a string of beads on a rigid thread."

The *undulatory* theory (Christian Huyghens') on the other hand considers space as pervaded by a subtle gaseous fluid or ether; that luminous bodies have the power of communicating to this ether a wave

motion which affects the retina the same as vibrations of the air affect the auditory nerve.

Sir John Herschel, speaking of the great ingenuity of the undulatory theory says, "if it is not true it deserves to be."

The sun is the great natural source of light; as it shines by its own light it is called *self-luminous*. The fixed stars are also self-luminous; so is a lighted lamp and bodies in a state of ignition. But most bodies by which we are surrounded, are seen only by reflected light. The light from an object seen by moonlight is reflected twice before it reaches the eye. The moon reflects the light from the sun, and the object the light which it receives from the moon.

Every luminous object gives off, or radiates, in every direction, an infinite number of straight lines of light. Each of these lines taken alone is called a *ray* of light. A bundle of rays is called a *beam* of light when the rays are *parallel* to each other. When the rays *diverge* from a luminous point or are made to *converge* to a focus they are called a *pencil* of rays thus:

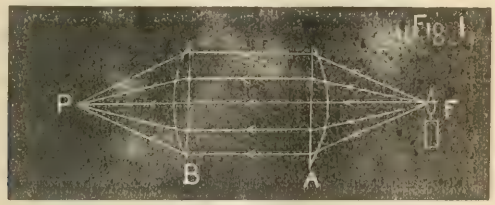


Fig. 1 represents a pencil of rays diverging from a flame F, after passing through a convex lens they are rendered parallel and these parallel rays passing through the second convex lens B, the rays are converged to the point (focus) P.

The parallel rays may be called a *parallel* pencil; the diverging rays a *divergent* pencil, and the convergent rays a *convergent* pencil. The point where rays of light meet is called the *focal* point or simply a *focus*.

Strictly speaking, there is no such thing in nature as parallel rays; the nearest approach we have to it are the rays of light we receive from the sun and the fixed stars. Practically, we may consider rays of light parallel that are received by the pupil of the eye from objects that are twenty feet distant or any greater distance. Pencils of light from objects less than twenty feet distant are more decidedly divergent.

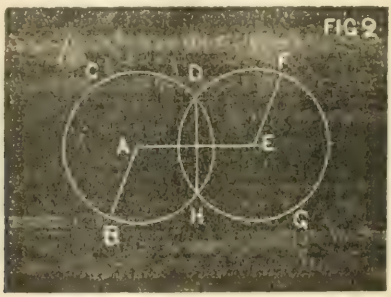
A good illustration of a divergent pencil can be obtained from a lighted lamp or candle in a dark room. If a piece of card board, with a

small circular opening in it, be held near the lamp, you will have, upon the opposite wall, an illuminated spot of the same shape as the opening in the card, but very much larger.

This will prove not only that the rays *diverge*, but also that the rays proceed in straight lines. *

Convex Lenses:—We shall now proceed to the consideration of convex lenses, which, for our purpose, is the most important part of the subject. Lenses are made of various transparent substances as amber, alum, quartz, glass, diamond, and even of ice. Those in ordinary use are made of glass. When the two surfaces of a convex lens have the same degree of curvature, the lens is said to be equi-convex. When one of the surfaces is flat or plane, the lens is called a plano-convex lens. Glass spectacles used by old persons for reading, &c., are commonly made double convex.

In order to simplify the subject as much as possible, let us confine our attention to lenses that are equi-convex.



In fig. 2 let A be the centre of the circle B C D of which A B is the radius, and let E be the centre of the circle F G H of which the radius, E F is equal to the radius A B. The circle F G H will be equal to the circle B C D. The part D H, common to both circles, represents a section of an equi-convex lens. The line A E is called the *axis* of the lens, and the line D H is called the *diameter*. The centre of the diameter (where it is intersected by the axis) is the optical centre of the lens.

Reading glasses and burning glasses are examples of a double convex lens. Many of you have doubtless seen the experiment of setting fire to wood, paper, &c., by means of a burning or sun glass. The explanation

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(* Convergent pencils of light do not exist in nature. Parallel pencils or divergent pencils of rays can be rendered convergent by means of a convex lens. Thus in fig. 1, the rays diverging from F. are made to *converge* to P. by the convex lenses, A. and B.)

of this is simply that the convex lens possesses the property of converging a portion of the sun's rays to a point called the focus.

In Fig. 3, P P represent a pencil of parallel rays converged to a focus at F, by means of the double convex lens L.

The focus for parallel rays is called the *principal* focus. It is always the same distance from the optical centre in the same lens. The length of the focus for parallel rays is, in equi-convex lenses, equal to the length of the radius of curvature.

The shorter the focus the greater is the "power" or "strength" of the lens. A lens that can bring parallel rays to a focus at a distance of one inch from the optical centre of the lens, would be called a *one-inch* lens. Another lens whose focus is two inches from the optical centre, is called a *two-inch* lens, and so on. Convex lenses therefore receive their names according to the number of inches, or fraction of an inch, the principal focus is distant from the centre of the lens. The strongest lenses used for spectacles are those called cataract glasses; they are worn by patients who have had their crystalline lenses removed. Their strength ranges from 2 to 4 inches focal length. The weakest spectacles that are ordinarily used have a focus of 36 inches. Convex lenses having a focus of 36 inches do not enlarge the letters of a book at the ordinary reading distance.

Let us now see what practical application we can make of this principle of convex lenses.

Supposing that a person accustomed to using convex spectacles gets one of the glasses broken, and applies to you to learn the power of the glass that would be necessary to replace the broken one, or in other words—to learn the strength of the glass that is still whole. How would you proceed? One method is to use the lens as a sun glass, and ascertain by measurement how far from the glass, sun's rays are brought to a focus. If you find, for instance, that the focus is 10 inches from the lens, you will have ascertained that the person has been wearing glasses of 10 inch focus, or as they are sometimes called No. 10 convex, or simply + 10 (plus 10).

The method, however, that is usually adopted, depends upon a property of convex lenses that will be more fully explained as we proceed.

If, for example, you hold up a 10 inch convex lens at a distance of 10 inches from a white wall—the wall being about 20 feet from an open window, opposite—there will appear, behind the lens, upon the wall, an inverted miniature image of the window, and trees or buildings, &c., in front of the window. If the lens be held at a greater or less distance from the wall than the focal length of the lens, the inverted image will be indistinct. Measuring the distance therefore that the lens must be held from the wall, to produce the best defined image, will give the focal length image of the lens.

Suppose, now, that we bring the lens within, say 5 feet of the window, and hold a sheet of white paper at the principal focal distance behind the lens, viz., at ten inches, we will find a change in the inverted picture; there will still appear distant buildings, trees, &c., but the sash of the window will be very indistinct. If, however, we move the sheet of paper 12 inches from the lens—that is, two inches further from the lens, we will again see the image of the sash, but scarcely any trace of the buildings, trees, &c. This experiment is an illustration of the fact that the nearer an object approaches the front of a convex lens, the more distant its image will be behind the lens; thus, when an object is 5 feet or rather 60 inches from the front of a 10 inch convex lens, the inverted image is found to be 12 inches behind the lens; when 30 inches, it will be 15 in.; when 20, that is, double the length of the focus, the image will be double the length of the focus behind the lens; viz., 20 inches; when 15 inches, the image behind the lens will be removed to 30 inches. As the object approaches the principal focal distance of the lens the image recedes much more rapidly; thus, when at 12 inches, the image will be 60 inches; when at 11, the image will be 110 inches behind the lens. When however we bring the object to within 10 inches of the lens—that is, at its principal focus, there will be no image formed behind the lens, as the rays after passing the lens will be parallel.

(I would recommend you, gentlemen, to perform all these experiments for yourselves, as in that way only can you become familiar with these important principles. These latter experiments can be performed best in a dark room—taking for an object the flame of a lamp or candle.)

From the above we can easily understand the principle, 1st, that the *less* divergent the rays of a pencil (that is, the more nearly they approach parallel rays,) incident or falling upon a convex lens, the nearer will the focus of the convergent pencil be to the principal focus of the lens. 2nd, and the *more* divergent the incident pencil, the less convergent (the more nearly parallel) will be the refracted pencil, and the more distant will its focus be from the principal focus of the lens.

Questions of the following nature very often arise in optics, viz., the length of the principal focus of a convex lens and the distance a certain object is in front of it being given;—to find how far behind the lens will the inverted image of the object be. Or to express it more technically, the length of the principal focus of a convex lens and the length of the divergent incident pencil being given, to find the length of the focus of convergent refracted pencil. Thus: suppose you have the following question: A 10 inch lens is 60 inches from an object; how far behind the lens will the inverted image be?

This could be solved immediately, by actual trial, and measurement, but this is not always practical.

The rule given in some text books on optics is as follows: multiply the length of the divergent incident pencil, that is, the distance the object is from the lens, by the focal length of the lens, and divide by the difference; thus: $60 \times 10 = 600$, $60 - 10 = 50$, 600 divided by $50 = 12$; or $\frac{60 \times 10}{60 - 10} = \frac{600}{50} = 12 =$ the distance behind the lens.

There is another property of convex lenses which I must not omit to mention; namely, what is called its magnifying power.

When a convex lens is placed between the eye and an object,—the object being at a less distance from the lens than its principal focus, the object will appear enlarged or magnified. The shorter the focus of the lens, the greater is its magnifying power. Thus, a 4 inch lens has a greater magnifying power than an 8 inch lens; a 2 inch lens greater than a 4, and a 1 inch greater than a 2 inch lens. The 1 inch lens has, in fact, double the magnifying power of a 2 inch lens; a 2 inch, double that of 4 inch; a 4 inch, double that of an 8 inch, &c.

The "power" of a lens is therefore inversely proportional to its focal length. For this reason a different form is used in expressing the "power" or strength of a lens. A 1 inch lens is taken as unity, and as a 2 inch lens is just half the strength, it is simply expressed $\frac{1}{2}$, and as a 3 inch lens has just one-third the power of a 1 inch, it is written $\frac{1}{3}$; a 4 inch is $\frac{1}{4}$, &c. We will find that this nomenclature is not only very convenient, but scientifically correct.

For example, suppose we have two lenses of 4 inch focus each, and we wish to know their combined "power" when used as one lens; we simply add their reciprocals thus $\frac{1}{4} + \frac{1}{4} = \frac{2}{4} = \frac{1}{2}$. The two lenses have, therefore, the magnifying power of $\frac{1}{2}$, which is the reciprocal of 2, and are consequently, together, equal to a 2 inch lens, which can be proved by actual measurement. Again, having a 6 inch lens, and a 12 inch lens and we wish to know their combined strength, $\frac{1}{6} + \frac{1}{12} = \frac{3}{12} = \frac{1}{4}$ lens which

represents the power of a 4 inch lens; the 6 and the 12 inch lenses taken together being equal to one lens having a focal distance of 4 inches.

To save repetition, I may here state that when a *concave* lens enters into combination with a *convex* lens, it has a neutralizing effect upon the convex lens. If we have a convex 6 and a concave 6 the one would neutralize the other,—thus $\frac{1}{6}-\frac{1}{6}=0$. But if the convex lens has the higher power, the concave lens simply weakens it—that is, lengthens its focus—thus, if we have a convex 6 and a concave 9 the result will be $\frac{1}{6}-\frac{1}{9}=\frac{3}{18}-\frac{2}{18}=\frac{1}{18}$, which represents the strength of one lens having a focus of 18 inches. If, however, the concave lens has the higher "power" it will simply be weakened by the concave lens,—the combination will be equal to a concave lens having a lower "power" or a longer focus than the concave lens taken,—thus reversing the last example. Suppose we have a *concave* 6 and a *convex* 9, we will then have—$\frac{1}{6}+\frac{1}{9}$ or simply $\frac{1}{9}-\frac{1}{6}=\frac{2}{18}-\frac{3}{18}=-\frac{1}{18}$, which represents the strength of a *concave* lens having a focal distanc of 18 inches.

This fractional nomenclature (taking 1 for numerator and the focal length of the lens for denominator) will assist us also in understanding the principle of the formation of images at different distances behind a convex lens, according to the distance of objects in front of it.

Let me remind you that when an object, for instance the flame of a candle, is placed in the focus of a convex lens, the diverging rays of light from the object are rendered parallel by the lens. Thus, a lens having a focus of 20 inches will render parallel pencils of light diverging from an object 20 inches from the lens. Bearing this in mind let us again try the solution of the following question, propounded not long since, viz.:—When an object is 60 inches in front of a 10 inch convex lens, how far behind the lens will be the inverted image of the object? Or, to express it differently, when a divergent pencil of light emanates from a point 60 inches from a 10 inch convex lens, at what distance behind the lens will the pencil be converged to a focus?

Now we know that a lens of 60 inches focus, placed in the position of the 10 inch lens, would render the rays parallel that fall upon it from the object 60 inches distant. Were it possible, therefore, to divide the 10 inch lens into two lenses, one having a focus of 60 inches to render the rays parallel, the remaining portion would bring these parallel rays to a focus at its principal focus. Deducting then $\frac{1}{60}$ from $\frac{1}{10}$ will give the strength of the remaining portion of the lens $\frac{1}{10}-\frac{1}{60}=\frac{5}{60}=\frac{1}{12}$, the two parts then $\frac{1}{60}$ and $\frac{1}{12}$ are equal to the one lens $\frac{1}{10}$. And as the $\frac{1}{60}$ will render the rays parallel from the object 60 inches distant, and these parallel rays falling upon the other part $\frac{1}{12}$, they will be brought

to a focus at the principal focus of this part, viz: at 12 inches from the lens. Let us illustrate this with another example. Suppose that an object is 30 inches in front of a convex lens of 10 inch focus, and we wish to know how far behind the lens will be the focus of a pencil of rays diverging from a point in the object. We will have $\frac{1}{15} - \frac{1}{30} = \frac{2}{30} = \frac{1}{15}$; this $\frac{1}{15}$ represents the power of a 15 inch lens, which we know will bring the parallel rays to a focus at 15 inches behind the lens.

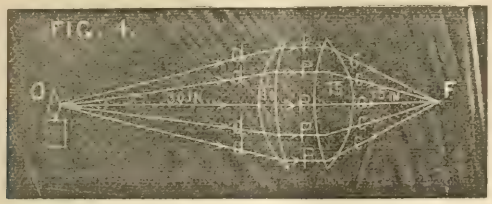


Fig. 4 illustrates this; O represents an object 30 inches from a ten inch convex lens; the lens supposed to be divided into two parts, one having a focus of 30 inches, and the other a focus of 15 inches. The 30 inch lens refracts the rays of the divergent pencil d, d, d, d, so as to render them parallel, as shown at P, P, P, P, P. These parallel rays, meeting the 15 inch lens, are again refracted and are converged to a focus at F, which is the principal focus of the lens, viz., at 15 inches.

Fig. 1, page 3, represents a 10 inch lens, at a distance of 20 inches from an object, F. The lens is supposed to be divided into two equal parts, of 20 inch focus each: the first half renders the diverging pencil parallel, and the second half converges the parallel pencil to a focus, at 20 inches from the lens; $\frac{1}{10} - \frac{1}{20} =$, $\frac{1}{10}$.

(Gr. Giraud-Teulon, of Paris, has ascribed the origination of the above theory to Mr. J. Z. Laurence, of London, to whom we are very much indebted, for his praiseworthy efforts to popularize this, hitherto neglected, field of Physiological and Pathological Optics.)

Let me next direct your attention to certain optical considerations, which have a most important application, in the treatment of optical defects of the eye.

You may remember that in a former experiment, a 10 inch lens was held ten inches from a white wall, so as to show the miniature inverted picture of the window, &c., 20 ft. distant; and that when the lens was brought to a distance of sixty inches from the window, it was found that the image of the window was formed 12 inches behind the lens, instead of 10 inches, and that at 10 inches the image was so indistinct as to be scarcely recognizable.

Now suppose that a 12 inch lens be immovably fixed 12 inches from

the same wall, it will then be in a proper position to bring parallel rays to a focus on the wall, where it will form an inverted picture of the window, and objects at a distance beyond the window.

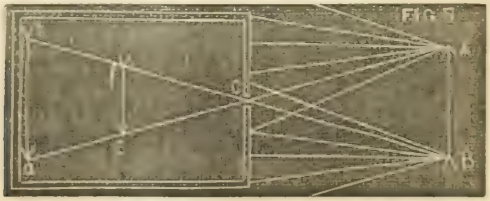
If we now bring the flame of a lamp, for instance, to a distance of 60 inches from the lens, no distinctly defined image of the flame will appear upon the wall; but if, by any means, we can render the pencil parallel that diverges from the flame, the 12 inch lens will then converge it accurately to a focus upon the wall, where we will have an inverted image of the flame.

From the knowledge that we have now obtained, we know that a 60 inch lens placed in front of the 12 inch lens will render these rays parallel. All that we have to do then is to combine a 60 inch lens with the 12 inch lens: the 60 inch lens to render the rays parallel that diverge from the flame, 60 inches distant, and the 12 inch lens to converge these rays to a focus, at the principal focal length of the lens. This is exactly what we do in supplying old people with convex spectacles. Their eyes are constructed to bring parallel rays to a focus, on the retina; but the rays from near objects are too divergent to be brought to a focus upon the retina without artificial aid; this deficiency is what we supply with suitable glasses.

Before leaving the consideration of optical lenses, there is one subject to which I wish to direct your attention; namely, the formation of an inverted image behind a convex lens.

Many of you are probably familiar with the fact, that when light is admitted into a darkened room, through a small orifice, there appears upon the opposite wall of the room, an inverted, dim, shadowy picture of buildings, trees, &c., in front of the aperture. This can also be seen, on a smaller scale, by holding a sheet of white paper a few inches from the key-hole of a darkened hall.

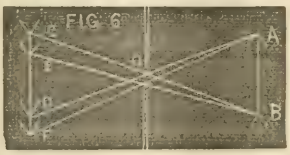
The cause of this is explained by Fig. 5.



Let A B represent the position of a flame of a lamp that is a short distance in front of an aperture of a darkened box. Pencils of divergent rays of light radiate from the apex of the flame in every direction: one of these pencils is represented in the figure to illuminate the end of the

box, and one of the rays escaping through the small orifice *c;* this ray passes in a straight line to the back of the box, and strikes the point *a*, which it illuminates.

Rays of light diverge from the lower part of the flame, also; one of these rays is shown to enter the aperture *c*, and to pass to the back of the box at *b*. In a similar way it might be illustrated that pencils of light radiate from every point in the flame A B, and that one ray from each point passes into the box and illuminates a portion of the back. In this way we have an illuminated spot at the back of the box, which is an exact counterpart of the flame in front of the box, but *inverted*, the apex of the flame pointing downwards. The reason that the picture is reversed is that, as rays of light (in the same medium) pass in straight lines, a ray from the top of the flame, after passing the aperture, must necessarily pass to the lower part of the back of the box; and a ray from the lower part of the flame must necessarily (in moving in a straight line) pass to the upper part of the back of the box. You will observe, also, that the size of the image depends upon its distance behind the aperture; if the image is as far behind the aperture, as the object is in front, the image will be of the same size as the object, if half the distance, half the size, as seen at f g.



If, in the above experiment, the aperture be enlarged, it will be found that the image at the back of the box will become much less distinct; the more the aperture is enlarged, the more indistinct will be the image. The reason of this indistinctness in the image is that, when the aperture is enlarged, a number of diverging rays from one point in the flame pass through the aperture, and each one repeats the image, so that the parts of the image overlap each other.

This is shown in Fig. 6. A B represents the flame of the lamp, and C E D F the image behind an aperture. The aperture is supposed to be just large enough to admit two divergent rays, each of these rays produces a separate image; thus, the point A is repeated twice at D and F, and the point B is repeated at C and E. The larger the aperture, the more light is admitted, but the more indistinct is the image.

If now, a convex lens be inserted in the enlarged aperture, these divergent rays that enter the aperture (from every point of the object) are converged to a focus; thus, in

Fig. 7.

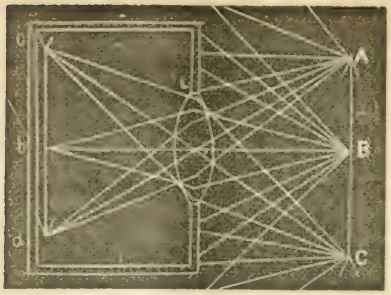


Fig. 7. A C represents an object in front of a convex lens, and *a c* the inverted image behind the lens. Rays diverging from the point A and falling upon the lens L are brought to a focus at *a*; rays from B are similarly focussed at *b*, and so on. In a similar manner, diverging rays from every point in the object A C that enter the lens, are brought to a focus in the image between *a* and *c*. We will then have in the position of *a c* a distinct inverted image of the object A C. If this image is received upon a sheet of white paper, we can see it only upon its front surface; but if it is received upon thin oiled paper, or upon ground glass, we can see it from behind; and if, while viewing the image from behind, the ground glass be removed, we can still see the inverted image (or at least a portion) occupying the same position as the ground glass just occupied—being suspended, as it were, in the air, and forming what is called an ærial image. In order to see this ærial image under favourable circumstances, one eye only should be used, and should be in a line with the lens and the object, and should be at least ten inches behind the position of the inverted lens.

Chapter II.—Optics of Normal Eye.

The human eye, from before backwards, is about one inch in diameter. Its transparent media are the cornea, aqueous humour, crystalline lens, and vitreous humour. This combination, with the convexity of the cornea, is equal to a convex lens having a focus of about one inch (more accurately $\frac{1}{2}\frac{8}{0}$ of an inch.

When a normal eye is directed to a distant object (*i. e.* in a state of rest), parallel rays of light are brought to a focus upon the retina, and a very minute inverted picture of the object is sharply defined upon that membrane. If the sclerotic coat be removed from the back of the eye of an ox, and the eye be placed in an aperture of a darkened room, with the cornea looking, for instance, towards the opposite side of the street, an

inverted image of the buildings, &c., in front of the aperture will be seen at the back of the eye.

The impression that objects make upon the retina, is conveyed through the optic nerve to the brain, but in what manner this communicates to the mind a knowledge of the appearance of objects, is more than we can tell. We can simply say with Potterfield, that "God has willed it so."

We are aware, however, that although the eye may be free from disease, and the connection between the retina and brain in every way perfect, if the optical mechanism of the eye be in any way defective so as to produce ill-defined images upon the retina,—vision will be indistinct, and that the distinctness or indistinctness of vision will be in exact proportion to the distinctness or indistinctness of the inverted picture. Hence the necessity of understanding the optics of the eye in order to comprehend the pathology and treatment of the numerous optical defects to which it is liable.

Case 1.—Let me here take an example. A few weeks ago a physician of this city sent a patient for my advice, fearing that he was losing the sight of his left eye. Upon examination, I found that he had what we call "paralysis of accommodation" of that eye.

He could see distant objects with perfect distinctness, but near objects he was unable to define; he could not read large type unless the letters were very large, and several feet from the eye. The eye was, in fact, simply passive, like a convex lens, or a camera-obscura with the screen to receive the image immovably fixed at the principal focus of the lens, and could only bring parallel rays to a focus on the retina.

I found that by rendering the diverging rays parallel, by means of a convex lens, he could see near objects distinctly; by placing a six inch convex lens before that eye, he could read fine type at six inches, with a ten inch lens at ten inches, with an eighteen inch lens at eighteen inches, &c., &c. The six inch lens rendered the rays parallel that diverged from the letters six inches distant, and these parallel rays falling upon the eye were brought to a focus upon the retina. [A six inch lens does not increase the apparent size of letters one-half, whereas this patient could not see letters ten times the ordinary size at six inches, or any distance less than about two feet from the eye.] The ten inch lens rendered the rays parallel from objects ten inches distant, and the eighteen inch lens from objects eighteen inches distant.

The eye was unable to bring diverging rays to a focus upon the retina; in other words, it had lost the power of "accommodation." (We can tem-

porarily paralyse the accommodation of the eye by applying a strong solution of Atropine.)

A normal eye differs from the glass lenses we have been describing in the fact that it can, not only focus parallel rays upon the retina, but also rays that diverge from objects as near as from four to six or eight inches from the eye. When parallel rays fall upon a one inch convex lens, they are brought to a focus one inch behind the lens, but if an object, for instance the flame of a lamp, be brought to within four inches of the lens, we know that the focus will fall further than one inch behind the lens. If we wish to receive the inverted image of the lamp upon a screen, the screen must be held one inch and a third behind the lens.

Now when an object is brought to within, say four inches of the eye, it has no power to move the retina backwards to receive the image that would be formed behind that membrane, but, what answers the same purpose, it has the property of so far increasing its refractive power, as to be able not only to render parallel these diverging rays, but also to focus them upon the retina. This increase in the power of the eye is equal to the addition of a four inch lens in front of an eye that has its "accommodation" paralysed, as a four inch lens renders rays parallel that diverge from objects four inches distant.

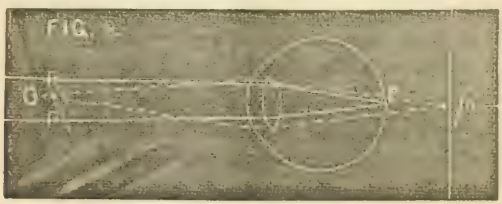


Fig. 8 represents the section of the normal eye. When it is accommodated for distant objects parallel rays P P are focussed upon the retina at F, while diverging rays from O, would form a focus at *fd*. When, however, the eye is accommodated for the near object O these diverging rays are focussed upon the retina at F.

The manner in which this increase in the refractive power of the eye is effected is still a disputed point. Most physiologists, however, are now inclined to the theory that it is caused by an increase in the curvature,—a thickening from before backwards, of the crystalline lens.*

* The accommodation of the eye was at one time believed to be produced by the external muscles, but it is now ascertained that the accommodation can remain perfect with all the external muscles paralysed.

The "near" and "far" point.—The nearest point to which objects can be brought to an eye and be seen with perfect distinctness, is called the "near point, and the farthest point of distinct vision is called the "far" point.

In a normal eye the "near" point is about seven inches from the front of the cornea, and the "far" point is at an unlimited distance. In childhood, however, the "near" point is about $3\frac{1}{2}$ inches from the eye, and recedes as age advances. At the age of forty the "near" point of a normal eye is nearly eight inches from the eye.

When the "near" point recedes to a greater distance than eight inches from the eye it becomes inconvenient; such an eye is called *presbyopic* or long-sighted.

When the "far" point is not unlimited, but is at a definite distance from the eye, as, for instance, from six inches to four or five feet from the eye—such an eye is called *myopic* or short-sighted.

Range of Accommodation.—The distance between the "near" and "far" point in any eye is called the "range of accommodation." If a person can read distinctly very fine type at four inches from the eye, and can also see clearly at an infinite distance, the range of accommodation would be said to equal $\frac{1}{4}$, because when such an eye is directed to objects at an infinite distance, (accommodated for parallel rays) in order to see clearly objects only four inches distant, it is necessary to increase the curvature of the crystalline lens, or, in other words, the "power" of the eye to an extent equal to the addition of a four inch convex lens; the power of which is expressed by $\frac{1}{4}$. If a person's "near" point is at eight inches from the eye, and his "far" point at an infinite distance, his range of accommodation would be said to be equal $\frac{1}{8}$.

If the "near" point of a myopic eye be three inches, and the "far" point be twelve inches, we get the range of accommodation by the equation $\frac{1}{3} - \frac{1}{12} = \frac{1}{4}$.

(To be continued.)

The iris was thought, by others, to have the power of increasing the refractive power of the eye, but it was proved by a case that occurred in Dr. Von Graefe's practice that accommodation can still be effected with entire absence of the iris.

Helmholtz and Cramer have proved, by means of the ophthalmometre, that when the eye is accommodated for a near object it undergoes the following changes:—1st. The pupil contracts; 2nd. The pupillary edge of the iris moves forward; 3rd. The peripheral portion of the iris moves backwards; 4th. The anterior surface of the lens becomes more convex (arched); 5th. The lens does not change its position; 6th. The cornea retains the same degree of curvature.

The Removal of a Foreign Body after Twenty-Five years presence beneath the Skin of the Upper Arm. By G. P. Girdwood, M.D., M.R.C.S.E., late assistant-surgeon 1st Battalion, Grenadier Guards.

Mr. W——, whose wife I was attending at the time, casually asked me one day whether it was a painful operation to remove a splinter from under the skin of the arm. I replied not. He then said that twenty-five years ago, as a child, he fell whilst playing on an old waggon in his native place, and ran a splinter of wood into his right arm, on the inner side, immediately over the centre of the course of the brachial artery, when it was broken off in the arm. A small portion was removed at the time, but the other and much larger portion remained behind, and the wound healed over it. He said he would consider about having it removed, and nothing was done at that time. A few days afterwards, a friend caught him by the arm and gave him a squeeze, and apparently forced the one end of the splinter through the skin. When I saw him again it was to ask me to remove the splinter. On examination, I found a small tumour just beneath the skin in the position already mentioned, about one inch and a quarter long, and half an inch wide, the long axis being across the artery. Over the centre of this tumour was a small abrasion of the skin nearly healed up. The splinter was readily removed by a small incision across the one end, and drawing it out with a pair of forceps.

There is nothing in the operation that makes this case worthy of record. Is is, however, an interesting fact, that a fragment of wood, a little more than an inch in length and half an inch wide and three-eighths of an inch thick should remain embedded in the tissues for a period of twenty-five years. Bullets, metallic ligatures, and sutures we know, will remain for years without giving any trouble unless they are pressing on some nerve or artery, but it is not often we have the opportunity of seeing fragments of organic matters being so embedded. In this case no discomfort was experienced until an accidental pressure caused a protrusion of one end through the skin. To avoid a recurrence of such an accident, my patient determined to have the splinter removed.

HOSPITAL REPORTS.

Case of Tertiary Syphilis—Albuminuria—probable Waxy Degeneration of Kidney, Spleen, &c. Direct Pulmonary Murmur. Under the care of D. C. MacCallum, M.D. Reported by Mr. J. McCurdy.

John Brown, aged 29, an immigrant, unmarried, was admitted into Montreal General Hospital on the 27th December, 1865, under the care of Dr. MacCallum.

History.—While a soldier in the Crimea, twelve years ago, he contracted a chancre, which was followed in a few weeks by a cutaneous eruption on the trunk and forehead, of twenty-four days' duration. Since that time, he has, till lately, been free from any cutaneous affection. For the last few months he has been getting thinner and pale, becoming easily fatigued on exertion. In his passage from Ireland to this country, he was sea-sick during the whole period; and, when he landed, he was extremely weak, had occasional bleeding at the nose, and frequent vomiting, He notices that for some time back he has been making more water than usual, and that he is obliged to rise frequently during the night to void it.

Symptoms on admission.—He is of light complexion, freckled, with a harsh dry skin. His appearance is anæmic, and the exposed portions of the body have a peculiar dusky-yellow hue. There is no œdema of the face or ancles. Tongue is coated and moist. Pulse 84, regular. Cicatrix of chancre on glans penis, and of buboes in the right groin. Syphilitic lepra (*L. gyrata*) in circular and crescentic spots, on the right arm surrounding the elbow-joint, on the inside of the left elbow, and on the front of his forearm, on the trunk below the right nipple, and in the right and left iliac regions. Large irregular spots on inside of right thigh, and outside of left. Nodes on shins, with marks of old ulcers. Large crescentic spots on outside of both fore-legs. On the arms and body are white circular, slightly eroded spots—remains of a tubercular sereptiginous irruption.

A blowing systolic murmur is heard at base of heart. Most distinct, and of harsh quality, at the pulmonary cartilage. Very indistinct at aorta cartilage, and not propagated along aorta. Rapid loss of intensity along left side of heart, and scarcely heard at left apex, but propagated strongly down the right side, and heard very distinctly at the right apex. The apex beat is in the normal situation, and transverse dulness not in-

creased. A loud, very musical bruit de diable is heard in the veins of the neck.

Spleen is enlarged, and painful on pressure. Its line of vertical dulness is seven inches and a half in extent, and it reaches forward to within four inches of the middle line of the abdomen. Its lower edge reaches to within three inches of the upper border of the ilium, and is found, by palpation, to be firm and easily defined. Liver is very slightly enlarged in the downward direction. His bowels have always been regular.

Urine is pale, sp. gr. 1015, of acid reaction, containing a large amount of albumen. Result of examination of the deposit is not decisive.

The blood has relatively a large number of colourless corpuscles.

Diagnosis.—1. *Tertiary Syphilis.* 2. *Waxy Degeneration of Kidneys, Spleen, and possibly, of other Organs.*—All that is wanting to complete the diagnosis being the presence of hyaline casts in the urine.

A Direct Pulmonary Murmur.—On the following grounds. It has its greatest intensity at the pulmonary cartilage, it is propagated with little loss of intensity along right side of heart to right apex—towards the left apex, with intensity greatly diminished, and up the aorta to scarcely any distance. Still the contrast between its characters as heard at the aortic cartilage, and that which it is found to possess at the pulmonary valves is greater than would obtain, if the sound were communicated to the pulmonary artery, from a bruit originating at the aortic orifice. The absence of swelling or pulsation in the veins of the neck, of signs and consequences of pulmonary congestion, preclude the existence of regurgitation through the tricuspid orifice.

Progress of the Case.—30th, Vomiting biliary matters. Tongue furred and urine scanty, ordered haustus albus (magnesia carb. et sulph.) nocte.

31st. Bowels not yet moved, but experiences less nausea. Put on milk diet, mutton chop extra, and ordered to take, tr. ferri sesquichlor. mxx. acid. nitrom. m x. ter in die.

Jan. 1st. Bowels freely moved, urine more copious, sp. gr. 1011 Urinary deposit contains no hyaline casts, but an abundance of large crystals of oxalate of lime; urozanthine in slight excess.

2nd. Passed in 24 hs. 34 oz. urine, sp. gr. 1016; urea, (calculated by means of Rev. Dr. Houghton's table, from amount of urine in 24 hs. and sp. gr.) 256 grs. Albumen (amount in 2 oz. ascertained by drying and weighing the precipitate obtained by boiling with nitric acid.) 13 grs. to 1 oz. or 442 grs. in 24 hs. Tenderness on pressure has disappeared from the spleen which retained its former dimensions.

3rd. Albumen of same amount in urine. Bowels continue open.

4th. Passed urine 79.5 oz. sp. gr. 1012. Urea 470 grs. Albumen 3 grs. to ℥ j. or 239. One hayline cast was discovered after a vigorous search. Still oxalate of lime; urine of last 120 hours still acid.

5th. Passed urine 101 oz. sp. gr. 1012, urea 561 grs. Albumen 3½ grs. to ℥ j. or 354 grs., acid when passed but that of 24 hours has an ammoniacal odour and a deposit of phosphates.

6th. Passed urine 112 oz. sp. gr. 1013, urea 740 grs., albumen 5 grs. to ℥ j. or 560, still much urozanthine in urine, few or no oxalates. Cardiac murmur is becoming more intense over the 3rd costal interspace. Patient sleeps but little, and continually complains of cold.

7th. Passed urine 112 oz. sp. gr. 1013, urea 662 grs., albumen 2½ grs. to ℥ j. or 255. The albumen of the last few days differs in character from that previously obtained. Formerly it used to dry into a semi-transparent, vitreous substance resembling gum-arabic, but now it is gelatinous when fluid, and dries into a dark pulverulent mass.

8th. Passed urine 110 oz. sp. gr. 1012, urea 650 grs., albumen 4 grs. to ℥ j. or 440 grs. After coagulation and separation of albumen, the urine remained cloudy. Upon adding tests for urozanthine no marked change in colour ensued, but a colourless jelly was obtained by agitating it with ether. The cardiac murmur is to-day harsh, almost rasping, and the peculiar methods of its propagation are still more striking. Patient drinks a great deal of water, sometimes as much as conggs at night. Lepra fading from the trunk. White blood corpuscles not quite as numerous as before. The blood was examined both before and after his dinner, and shewed a considerable increase of colourless cells at the latter period.

9th. Passed urine 106 oz. sp. gr. 1012, urea 638 grs. albumen 7½ grs. to ℥ j. or 759. Albumen of to-day easily separable, and dries into a transparent mass. Complains of pains in the epigastrium. Stop mixture. ℞ Pulv. Rhei. Co. ℈ j. and sinapsims to pit of stomach.

10th. Passed 95 oz. sp. gr. 1011, urea 508 grs., albumen 3½ grs. to ℥ j. or 333. Bowels freely moved and pain much diminished. Ordered barley water.

11th. Passed urine 104 oz. at sp. gr. 1011, urea 552 grs, albumen 4 grs. to ℥ j. or 416. The deposit contains hyaline casts in abundance, with many squamous trigonal cells. Tenderness on pressure over the lower edge of the spleen, and excessive pain occasioned by palpation over region of left kidney.

12th. Passed urine 122 oz. sp. gr. 1010, urea 628 grs. Albumen 2½ grs. to ℥ j or 305. Albumen tenacious, and separable with difficulty. Mixture to be resumed.

13th. Passed urine 134 oz. sp. gr. 1009, urea 670 grs. Albumen 3 grs. to ℥ j or 402.

14th. Passed urine 92 oz. sp. gr. 1010.5, urea 502 grs. Albumen 3 grs. to ℥ j or 294.

15th. Passed urine 118 oz. sp. gr. 1010.5, urea 607 grs. Albumen 4½ grs. to ℥ j or 521.

16th. Passed urine 135 oz. at sp. gr. 1011, urea 722 grs. Albumen 7 grs. to ℥ j or 945. The cardiac murmur remains the same in intensity and modes of transmission. Tenderness, still, in kidney and spleen. The latter retains its former dimensions. There is felt a slight venous thrill on pressing lightly over the veins of the neck, and a remarkably musical hæmic murmur is still to be heard. Patient looks much better. Lips are redder. Lepra fading slowly. Ordered beer one pint.

17th. Passed urine 155 oz. at sp. gr. 1011, urea 820 grs. Albumen 6½ grs. to ℥ j. or 1008. Blood examined to-day. White corpuscles in same ratio as before. Red corpuscles do not collect in rouleaux, but aggregate in masses, and when a current is created by pressing on the thin glass that covers them, they adhere to each other in passing, stretch out for some distance, and separate in a tailed form.

18th. Passed urine 124 oz. at sp. gr. 1011, urea 658 grs. Albumen 4 grs. to ℥ j. or 496. Tenderness in spleen increased. Stop beer, and apply sinapisms to the spot.

19th. Passed urine 114 at sp. gr. 1011, urea 606 grs. Albumen 3 grs. to ℥ j. or 342. Pain and tenderness in spleen excessive. Mixture stopped. ℞ ant. tart. gr. ½, liq. amm. acet. ℥ ij. omn., 4 horis Torulæ forming a scum in 24 hs. urine.

20th. Passed urine —— at sp. gr. 1011. Alb. 3½ grs. to ℥ j. or ——. Cannot lie on left side. Stomach very irritable. Mixture to be taken in one-half dose.

21st. Passed urine 41oz. sp. gr. 1013, urea 266 grs. Albumen 2½ grs. to ℥ j. or 103. Many granular casts, none were perfectly hyaline. Urine smoky appearance.

22nd. Passed urine 102 oz. at 1012, urea 602 grs. Alb. 2 grs. to ℥ j. or 204. Slight swelling of the face, and pallor. Spleen measures 9 ins. in a vertical direction. Pain less complained of. Mixture stopped. To have two ounces of Gin.

23rd. Passed urine 115 oz sp. gr. 1011, urea 550 grs. Albumen 1½ gr. to ℥ j or 173.

25th. Passed urine 131 oz. at 1010.5, urea 593 grs. Albumen 2 grs. to ℥ j. or 262. At 4 p. m. suddenly seized with a violent pain over the loins, especially severe on the left side.

26th. Passed urine 122 oz. sp. gr. 1011, urea 648 grs. Albumen 2 grs. to ℥ j. or 244. Pain in forehead very severe. Has lost sleep during last 48 hours. Left eye congested, its sight is confused. Face œdematous, especially the left side. Pulse full and frequent. Tongue coated. ℞ Pulv. Jalap Co. ʒij. Gin to be stopped.

27th. Passed urine 65 oz. at sp. gr. 1010, urea 335 grs. Albumen 6½ grs. to ℥ j or 423. Powder has not operated. Œdema of face still greater, and pain almost unbearable. Patient is almost delirious, and experiences twitchings of the limbs. ℞ croton oil mj, castor oil ʒ ij.

28th. Passed urine 31 oz. at 1012, urea 182 grs. Albumen 2¼ grs. in ℥ j or 70. Copious watery evacuations. Pain much relieved, and œdema of face visibly subsided. Appetite returns.

29th. Passed urine 79 oz. at 1011, urea 420 grs. Albumen 5 grs. to ℥ j. or 395. Still remains easy. Slight pain still remains over loins, and sensitiveness on pressure. Murmur, as heard at right apex of heart, is more intense than ever before.

30th. Passed urine 77 oz. at sp. gr. 1011, urea 409 grs. Albumen 5¼ grs. to ℥ j. or 504.

31st. Passed urine 101 oz. at sp. gr. 1010, urea 516 grs. Albumen 3 grs. to ℥ j. or 303. Patient is much improved in appearance. Appetite greater. Sleeps more soundly. Cardiac and venous murmurs remain as before. There is slight œdema of the face. The specific eruption has almost entirely disappeared. There are slight traces of it only on the lower limbs. Urozanthine is not in great excess present in the urine, and oxalate of lime has lately been never found. Blood still exhibits a tendency to fibrinate, and the colourless corpuscles are still in excess. Spleen's vertical dulness nine inches, its anterior border being felt three inches from the middle line of the abdomen.

The following table has been compiled for the purpose of showing at a glance the varying amounts of urine and albumen voided daily, and the totals for one month. Its consideration may also tend to throw some light on the circumstances that attend the occasional appearance of hyaline casts in the urine, and the changes that congestion of the kidney may effect in the material of the casts.

By the rough modes of computation employed, it will be seen that the greatest amount of urine passed in one day was 155 oz, and the least 31 oz. The largest quantity of albumen for the same period, 1008 grs., the smallest 70 grs. The waxy casts appear to have been desquamated at a time, when, for some cause, the urine was suddenly diminished in amount. The albumen was not materially affected on these occasions.

DAY.	URINE IN OZ.		SP. GR.	UREA. GRS.	ALB. TO ℥j. GRS.	TOTAL ALB. GRS.
Jan. 1, 1866	——	oxalite	1011	——	——	——
" 2, "	34	casts (?)	1016	256	13	442
" 4, "	79.5	oxal. no.	1012	470	3	239
" 5, "	101	casts or	1012	561	3.5	354
" 6, "	112	oxalates	1013	740	5	560
" 7, "	102	none	1013	662	2.5	255
" 8, "	110	"	1012	650	4	440
" 9, "	106	"	1012	638	7.5	759
" 10, "	95	"	1011	508	3.5	333
" 11, "	104	casts	1011	552	4	416
" 12, "	122	none	1010	628	2.5	305
" 13, "	134	"	1009	670	3	402
" 14, "	98	"	1010.5	502	3	294
" 15, "	118	"	1010.5	607	4.5	521
" 16, "	135	"	1011	722	7	945
" 17, "	155	"	1011	820	6.5	1008
" 18, "	124	"	1011	658	4	496
" 19, "	114	"	1011	606	3	342
" 20, "	——	"	1011	——	3.5	——
" 21, "	41	casts	1013	266	2.5	103
" 22, "	102	none	1012	602	2	204
" 23, "	115	"	1011	550	1.5	173
" 24, "	131	"	1010.5	693	2	262
" 26, "	122	"	1011	648	2	244
" 27, "	65	"	1010	335	6.5	423
" 28, "	31	"	1012	182	2.25	70
" 29, "	79	"	1011	420	5	395
" 30, "	77	"	1011	409	5.25	404
" 31, "	101	"	1010	516	3	303
Total....	2717.5		29329.5	14871	124	10687
Average..	100.65		1011.4	543	$4\frac{3}{7}$	395.7

REVIEWS AND NOTICES OF BOOKS.

On the Diseases, Injuries, and Malformations of the Rectum and Anus, with Remarks on Habitual Constipation. By T. J. Ashton, formerly Surgeon to the Blenheim Dispensary, Fellow of the Royal Medico-Chirurgical Society, Corresponding Fellow of the Pathological Society of Montreal, &c., &c. With illustrations. Second American, from the fourth English edition. Philadelphia: Henry C. Lea. 1866. Montreal: Dawson Brothers.

Of the numerous diseases which come under the observation of the surgeon, none, perhaps, are met with more frequently, or cause more trouble than those which are embraced under the various heads of this work; and a somewhat singular fact is, that authorities on the subject

are not at all numerous. Standard writers upon surgical topics glance but briefly at this class of diseases; and often, indeed, will the enquiring student search such works for the desired information, but in vain. This is to be regretted, for there are many practitioners unable to afford frequent additions to their library, and depend upon text books for all necessary information in time of need. When, however, such an addition can be afforded, we can recommend this volume of Mr. Ashton's in the strongest terms, as containing all the latest details of the pathology and treatment of diseases connected with the rectum. We have read the greatest portion of the work with a good deal of care, and although we cordially recommend it as an authority of great merit upon the subjects of which it treats, yet there are one or two faults, to us so conspicuous, that we feel that we cannot omit to mention them. First of all then, to our idea, Mr. Ashton commits a fault—one which is common to many authors—and that is, instead of simply writing a work for the benefit of his professsional brethren, there is an attempt, every here and there, to show what wonderful cures were performed by him upon Mr. So-and-so, who came from some great distance for the purpose of obtaining the benefit of his experience. We do not for a moment doubt the correctness of the statements made, and no one who reads the book will doubt that its author has both talent and experience on the subject on which he writes; but we do object that, in a work of such practical utility as the one in question, there should be anything which would give rise even to a possible suspicion that the author's object in publishing the work was to push his own professional reputation and extend his practice, rather than to benefit the science and art of medicine. One more slight fault that we have noticed is that here and there we have come upon repetitions, following close one upon the other. Perhaps this latter is hardly avoidable, and, therefore, we do not lay much stress upon it; but the former is so often noticed in works that, however unwilling, we feel that it was not right to pass it over without comment. The first chapter of the volume is on itching and irritation of the anus, a very prevalent disease, which Mr. Ashton states is often regarded as a local complaint, while, in truth, it is but a symptom of a constitutional disease. Local remedies are, however, at times useful, and he speaks favourably of lotions of acetate of lead, with vinum opii, black wash, and ointments of zinc and lead. Chapter V. is on Fissure of the Anus, and Lower Part of the Rectum. This disease is of very frequent occurrence, and gives rise to more suffering, in proportion to the pathological condition of the structures involved, than, perhaps, any other ills to which the human frame is liable.

" If the fissure exists at the verge of the anus, and is of recent origin, the patient must be directed to have recourse to ablution with soap and water, night and morning: after evacuating the contents of the bowels, half a pint of cold or tepid water should be thrown up; and when this has been ejected, a small piece of lint, saturated with a lotion of a solution of lead with opium, or one of similar properties, must be kept applied to the part. When there is much spasm of the sphincter, the extract of belladonna, in the proportion of a drachm of the extract to an ounce of spermaceti ointment, or ointment of acetate of lead, is commonly successful in relieving this distressing symptom. Belladonna has been employed in combating pain and spasm in diseases of the rectum by many eminent surgeons for a number of years.

" If, after a fair trial of the simple means that have been recommended, the fissure does not heal, but on the contrary, the edges become indurated, and the surface pulpy and indolent, the free application of the nitrate of silver, at intervals of a few days, for two or three times, will generally induce a healthy reparative action in the part, though often at the cost of much pain to the patient. The use of belladonna ointment and enemata after stool must be continued.

" But cases will occur in which both these plans fail, and it will be necessary to have recourse to a modification of the operation recommended by M. Boyer, namely, incision, through the ulcer; but it needs not be carried through the sphincter, as he advised, though since his time, and even at present, the greater number of surgeons divide the parts to the extent he recommended.

" The operation may be performed in two ways, either by cutting from within outwards, or without inwards. In either mode the patient must rest on his side, with his knees drawn up and the buttocks projecting over the edges of a sofa or bed, or he may lean over a table or back of a chair. For the purpose of cutting from within outwards—the plan hitherto generally adopted—a straight probe-pointed knife will be most useful; it is made thicker at the back than an ordinary bistoury, by which a ridge or button on the end is rendered unnecessary. The fore-finger, previously oiled, being introduced into the rectum, the knife must be pressed flat upon it till the point reaches the upper margin of the fissure or ulcer, when its edge must be turned, and an incision made through the mucous membrane, without extending it through the other structures. The other mode of making the incision is that advocated by Mr. Syme, and is performed by transfixing the ulcer beneath its base with a small, sharp-pointed curved bistoury, and cutting inwards through its centre; the opposite side of the bowel must be protected by the introduction of the finger, as previously directed."

The most important chapter, however, is that upon Hæmorrhoidal Affections, and it is impossible for any one who reads it attentively not to be struck with the very practical value of Mr. Ashton's remarks. He gives Montègne's classification, dividing hæmorrhoids into eight varieties, but at the same time says, "No better classification can be adopted in respect to the pathological structure of the several tumours, as well as to the treatment to be pursued, than the division into internal and external hæmorrhoids." Internal hæmorrhoids, he says, consist of three varieties.

"The first consists of loose folds of mucous membrane, with the submucous cellular tissue hypertrophied, the arterial capillaries abnormally developed and actively congested, the venous radicles being in a like condition. When these tumours are prolapsed, they are seen to be of a bright-red colour, spongy in texture, the surface villous like the conjunctiva in chronic ophthalmia; they readily bleed, the blood being spirted out in fine jets, as if from dilated pores, or oozing from the general surface. Its character is arterial. These tumours are usually attached by a broad base near the upper margin of the internal sphincter; sometimes the anal integument is implicated either from the great size the hæmorrhoidal tumours have attained, or their originating near the external orifice. In the second variety the tumours are more solid, somewhat round or pyriform, with a smooth dull-colour surface. They are attached by a peduncle, and, when not prolapsed, lie in the pouch of the rectum above the internal sphincter. They are composed of mucous membrane, hypertrophied cellular tissue, and veins having their tissues much thickened. The third variety differs essentially from the two preceding, and its character would be more clearly indicated by the term vascular excrescence, it being a florid, excessively vascular, granular condition of a portion of the mucous membrane, seldom exceeding a shilling in size, and generally much smaller."

As ointments to be applied by means of bougies to internal hæmorrhoids, Mr. Ashton speaks most favourably of combinations of conium, opium, or hyoscyamus, with spermacetic ointment (ten grains of either to the ounce); and, for the relief of excessive hæmorrhage, injections of iced water or solutions of copper, logwood, &c., are recommended; but he says he places much dependence on an injection of tannic acid, about a drachm to twenty-four ounces. At the same time, sulphuric acid or acetate of lead and opium must be given internally. The radical treatment of this form of disease is, of course, removal by means of the ligature, although, somewhat strange to say, Mr. Ashton does not seem to think that there are many cases which will not be sufficiently relieved by local applications. He says,

"In the majority of cases it will not be necessary to interfere surgically with internal piles, if the patient strictly attends to the instructions of his medical adviser with respect to diet and exercise. Even when the tumours are large, and have existed for some time, the use of soap and water externally, night and morning, the injection of cold water or lime water after each dejection, and keeping the bowels easy, will enable the subjects of them to pass their lives in tolerable comfort."

This fact we are not prepared to deny, but must be allowed to express our doubts of its correctness. External piles must be removed, this being the only satisfactory treatment—although other plans of treatment may be adopted—but it will only relieve for the time; ultimately recourse must be had to the knife. This chapter contains the record of a number of cases, all going to prove the views put forth by our author.

The other chapters of the work are all interesting and practical. The work is very neatly produced by Henry C. Lea, of Philadelphia; he is successor to the well-known medical publishing house of Blanchard & Lea.

A Text Book on Anatomy, Physiology and Hygiene for the use of Schools and Families. By JOHN C. DRAPER, M.D., Professor of Natural History and Physiology in the New York Free Academy, &c., &c., with one hundred and seventy illustrations, 8vo. pp. 300. New York: Harper & Brothers, publishers, Franklin Square, 1866. Montreal: Dawson Bros.

Is there a necessity for a work of this nature, and with the object professedly to teach the youth just so much of the anatomy and physiology of the human frame as would in many instances lead to the very worst results? Dr. Draper, in his preface, says: "Although the chief object has been to "propose a text-book for academic students, the work is also designed for the use of schools and families." Again we would seek to find the utility of laying bare (except to a strong minded woman) the many functions of the living organism. Works of this nature are not generally sought by the young for the purpose of instruction, but with a view of satisfying a morbid curiosity, and especially will you find well thumbed, and read and re-read those parts which relate to the reproductive organs. Although the space devoted to this subject in this volume is exceedingly short and concise, yet as a whole, we think it objectionable—the fashion of the age appears to be to break down that fine barrier of modesty, the very pride of the human female, and we do think that the greatest care should be exercised in the introduction of objectionable literature especially for children.

PERISCOPIC DEPARTMENT.

Medicine.

POISONING BY PHARAOH'S SERPENTS.

By William S. Rowen, Act. Assist. Surgeon U.S.N.

Observing your excellent article in the last number of the Journal, on the injurious effects which may result from the inhalation of poisonous gases set free by combustion of "sulpho-cyanide of mercury," in the form of the new toy, the "eggs of Pharoah's serpents," I beg leave to give the particulars of a case that came under my observation a short time since in Washington, D. C. The "eggs" being, as you say, one of the fashionable sensations of the day, are introduced into the drawing rooms and nurseries of many of our citizens, who are in a measure ignorant of their true character, and who may realize the fact only when serious mischief has been done.

A gentleman of my acquaintance, who has been troubled with a slight bronchial affection for several months, ignited one of the "eggs" in a close room; and while watching the singular appearance of the mellone slowly exuding from the apex of the cone, was seized with vertigo and asphyxia, and, losing consciousness, fell to the floor, the flame from the burning "egg" igniting a portion of his clothing. He recovered in a moment, but suffered with an aggravation of his bronchitis for several days, accompanied with severe hemicrania.

I have heard of another case similar to the above, in which a child was partially suffocated by the obnoxious gases.—*Boston Medical and Surgical Journal.*

THERAPEUTICAL FRAGMENTS.

By Theodore C. Miller, M.D., Athens, East Tennessee.

Valerianate of Zinc in Sleeplessness.—In some form of fevers, the typhoid pneumonia, etc., where opium or morphine increased the difficulty, I succeeded admirably, by giving 2 grs. of val. zinc 4 times daily.

Dysentery.—In one epidemic where the disease showed more of a gastric nature, the following removed the whole disease in a few days:

℞ Epsom salts, ℥ j. Camphor water, fl ℥ viij. Muriatic acid, fl ʒ j. Fluid ext. ipecac, ☋ j.

M. S.—A tablespoonful every 2 hours.

Chronic Dysentery.—In a very severe case, after the use of a variety of treatment, I restored the patient complete in eight days, by giving the following:

℞ Fluid ext. cascarilla, fl ℥ ij. Camphor water, fl ℥ iij. Vinum opii, fl ℥ ß.

M. S.—Every two hours a large tablespoonful.

Hypophosphate of Quinia in Dysentery.—In the year 1861, August, I observed a form of dysentery, confined only to a small space of country, and which was obstinate to treat, but gave, by the administration of hypophosphate of quinia (2 grs. every 2 hours), the most satisfactory results.

Lactucarium in Dysentery.—In September, 1862, I observed by the combination of lactucarium with small doses of ipecac, a quick and sure remedy. It is nothing new as the same has been praised many years ago by Dr. Rothammel.—(Heidelb. Klin. Annal. v. v.)

Cimicifuga in Rheumatic Ophthalmia.—In several cases, I found the fluid extract an excellent remedy. In one case it improved the patient, but did not completely cure him, till I combined it with iron.

Cimicifuga in Chronic Vomiting.—In a case of a lady 28 years of age, who had been treated by physicians in all her reach for over a year, and who laboured for one day under a cardialgia, the next day under a severe vomiting, I gave the alc. ext. of black cohosh 2 grs. at a dose, with pulv. althææ. in pill form. In twelve days it arrested the disease, but let her take afterwards for two months, 1 gr. pill four times daily. This was in 1861; the disease has never returned.—*Journal of Materia Medica, New Lebanon, N.Y.*

Midwifery and Diseases of Women and Children.

AGGRAVATED DYSMENORRHEA; EXPLORATIONS OF THE UTERUS WITH THE ENDOSCOPE; CURE.

Anne Crolly, aged thirty-five, unmarried, settled in England many years, and has worked in a cotton factory; of full habit, rather pale and flabby, and apparently in good health, admitted June 23, 1865.

History.—Two years ago had bleeding, followed by copious hæmorrhage from the womb, which was accompanied by discharge of "clots;" this occurred suddenly, and continued eight months without intermission, but was not attended with pain. Has been repeatedly under medical treatment in England, and took mercury to salivation.

Bleeding ceased for five weeks; it then returned, and has continued

to the present time ; it is now, however attended with pain, which she describes as being of a "squeezing" kind, and accompanied by "forcing."

Os uteri is patulous, and plugged with glairy mucus ; its lips are congested, and on the slightest irritation florid blood flows freely from them.

Examined with Dr. Cruise's endoscope ; the lining membrane of the uterus presented streaks of vascular engorgement, like the conjunctiva in a state of chronic inflammation : in several situations, also, the mucous membrane was seen to be rough and granular. It was touched, through the endoscope, with a twenty-grain solution of nitrate of silver, and the *blanched* surface so treated was subsequently distinctly visible through that instrument.

Treatment consisted, in addition to the above, in repeated leeching of anus, warm hip baths, injections of sulphate of alum and oak bark, mild aperients, and vaginal suppositories, composed of acetat. plumbi, gr. x, extract opii aquæ, gr. i, unguent hydrarg. ℈ j. M.

July 5.—Greatly improved ; no bleeding for several days, and pain in breasts, which, when hæmorrhage was troublesome, had beeen urgent, no longer exists.

Diagnosis—Dysmenorrhea from uterine congestion.

July 19.—Examined to-day ; os uteri much less patulous ; it is now pale, and a transparent glairy mucus oozes from it ; no hæmorrhage or pain for last three weeks ; breasts still tender to pressure, but pain removed, partly by means of aconite and chloroform liniment, and gr. i of valerianate of zinc, ter in die ; but mainly, no doubt, by the treatment directed to the uterus. Discharged this day.

With the assistance of my colleague, Dr. Cruise, the interior of the uterus was examined by means of his endoscope, by Dr. Churchill and William Stokes, jun., at a time when vascular congestion existed in a high degree.

There can be no doubt that the practical value of the endoscope was illustrated in this case, as without the use of it—although one might infer from the symptoms the condition of the interior of the womb—it would have been impossible to have the advantage of *ocular* demonstration of this, and to have directed local treatment with the eye.

September 13, '65.—I received a letter from Crolly's mother to-day, from Bolton, England, thanking me "for saving her daughter's life," etc., "after she had been treated to no effect in England."

I mention this letter, which was not in any way solicited, for the purgose of showing that up to that time the girl had continued well.—*Ibid. Clinical Records of Mater Misericordæ Hospital.*

SUCCESSFUL CASE OF CÆSAREAN SECTION.

By Professor Jacolucci of Naples.

On the 4th of August, 1862, Philomene Morvillo, nine months pregnant, was brought to the Hospital of Incurables. This woman was only forty-one inches in stature. On examination, the following were ascertained to be the dimensions of the pelvis:—From right to left anterior superior spinous process of the ilium, eight inches; from middle of one iliac crest to the corresponding point on the other side, a little less than two inches; right sacro-coty-löidion space rather more than one inch, left ditto one inch. On the 27th August labour pains set in, and on the arrival of Professor Jacolucci he found that the waters had escaped, and that the umbilical cord was protruding. The pulsation in the cord becoming gradually more feeble, the Cæsarean section by the method of Mauriceau was decided on. The abdominal cavity and anterior wall of the uterus having been laid open, the operator introduced his hand in the direction of the right iliac fossa in which was found the head of the still living fœtus. The loss of blood was considerable. By the retraction of the uterus the wound in that organ diminished to half its extent. The twisted suture was then employed, and the application of a bladder filled with ice to the abdomen and cold enemas constituted the entire treatment during the next three days. The wound in the abdomen united by the first intention.

The thirteenth day after the operation the points of suture were removed, the cicatrisation being complete. The lochial discharge and lacteal secretion were established normally; and at the expiration of fifty days the patient left the hospital.

Professor Wurtz has been appointed Dean of the Faculty of Medicine of Paris.—*Dublin Medical Press and Circular.*

OBSTETRICAL CLINIC OF PROF. CHAS. A BUDD.

Reported by S. Hendrickson. Sub-acute Inflammation of Cervix Uteri, with Endocervicitis.

Mrs. S., æt. 24 years; has been married fifteen months. No children. Patient enjoyed good health previous to her marriage. Her general health is also at present good; appetite fair; bowels regular; monthly periods constant, lasting four days. She comes here complaining that she experiences pain during the act of sexual congress.

Now, *a priori*, upon what may this inconvenience depend? This pain during copulation may be dependent upon—first, *vaginitis*, which condition always causes violent paroxysms of pain on introducing anything

into the vagina, even the finger in making a digital examination. Another cause is ulcerations in the vagina, around the carunculæ myrtiformes, from a failure of the hymen, lacerated in the natural way, to heal. Another cause is vulvitis. Other causes may be a general hyperæsthesia of the uterus from hyperæmia, or inflammation, or ulceration of the cervix. We very frequently find this hyperæthesia at the time of sexual intercourse, associated with sterility.

On making a digital examination, there seems to be no soreness about the vulva or vagina, but the patient shrinks on touching the neck of the uterus. There is a slight disposition to retroversion of the uterus.

On making an examination per speculum, the neck of the uterus is seen to be the seat of a subacute inflammation, giving rise to endocervicitis, or catarrh of the neck. The pain, therefore, which the patient complains of, is due to this sub-acute inflammation of the cervix, and the sterility upon the endocervicitis.

(The case was now exhibited to the class. There was seen a thick, tenacious, alluminous fluid issuing from the cervix.)

Probably this inflammation may have existed for many months, and is not the result of her new relations. What is the cause of the cervical catarrh? All we can say is that it is a remnant of the detritus resulting from inflammation which has existed at an antecedent period.

One great obstacle to the success of our treatment in these cases is the continuance of sexual intercourse. Hence you can see the benefit to be derived in such cases by causing a temporary separation of the wife from her husband. We will treat this patient by scarifying the cervix, taking about half an ounce of blood, and then pass the saturated tr. iodine by means of a probe tipped with cotton, to the os internum.

Materia Medica and Chemistry.

THE NEW ANÆSTHETIC.

Professor Simpson, the well known discoverer of Chloroform, has recently been experimenting further in the same direction. In a late number of the *Medical Times and Gazette* he gives his observations concerning its effects—the essential portions of which are embraced in the following:—

"The last of these compounds—the bichloride of carbon is the new anæsthetic which forms the special subject of the present observations. It was first, I believe, discovered by M. Regnault, in 1839. It has already received various appellations from various chemists, as perchloroformene, perchlorinated chloride of methyl, dichloride of carbon, carbonic

chloride, tetrachloride of carbon, superchloride of carbon, perchloruretted hydrochloric ether, and perchloruretted formene (see Gmelin's 'Handbook of Chemistry,' vol., vii., p. 355, and Watt's 'Dictionary of Chemistry,' vol. i, p. 765).

"If it becomes, as I believe it will, for some medicinal purposes, an article of the materia medica, it will require to have a pharmaceutical name appended to it, and perhaps the designation of perchloroformene, or the shorter term chlorocarbon, may prove sufficiently distinctive. In its chemical constitution, bichloride of carbon, or chlorocarbon, is analogous to chloroform; with this difference, that the single atom of hydrogen existing in chloroform is replaced in chlorocarbon by an atom of chlorine, for the relative chemical consitution of these two bodies may be stated as follows :— Chloroform $= C_2HCl_3$

Chlorocarbon $= C_2ClCl_3$.

"The chlorocarbon can be made from chloroform by the action of chlorine upon that liquid; and Genther has shown that the process may be also reversed, and chloroform produced from chlorocarbon, by treating it in an appropriate vessel with zinc and dilute sulphuric acid, and thus exposing it to the action of nascent hydrogen. The most common way hitherto adopted of forming bichloride of carbon consists in passing the vapour of bisulphide or bisulphuret of carbon together with chlorine through a red-hot tube either made of procelain or containing within it fragments of porcelain. There result from this process chloride of sulphur and bichloride of carbon, the latter being easily separated from the former by the action of potash.

The bichloride of carbon, or chlorocarbon, is a transparent, colourless fluid having an ethereal and sweetish odour, not unlike chloroform. Its specific gravity is great, being as high as 1·56, chloroform is 1·49· It boils 170° Fahrenheit, the boiling point of chloroform being 141°. The density of its vapour is 533, that of chloroform being 4·2.

Beside trying the anæsthetic effects of bichloride of carbon upon myself and others, I have used it in one or two cases of midwifery and surgery. Its primary effects are very analogous to those of chloroform, but it takes a longer time to produce the same degree of anæsthesia, and generally a longer time to recover from it. Some experiments with it upon mice and rabbits have shown this—two corresponding animals in these experiments being simultaneously exposed, under exactly similar circumstances, to the same doses of chloroform and chlorocarbon. But the depressing influences of chlorocarbon upon the heart is greater than that of chloroform; and, consequently, I believe it to be far more dangerous to employ as a general anæsthetic agent. In a case of midwifery in

which it was exhibited by my friend and assistant, Dr. Black, and myself, for above an hour, with the usual anæsthetic effects, the pulse latterly became extremely feeble and weak. In another case in which it was exhibited by Dr. Black, the patient who had taken chloroform several times before, was unaware that the new anæsthetic was different from the old; her pulse continued steady and firm, although she is the subject of valvular disease of the heart. The surgical operations in which I have used chlorocarbon have been, the closure of a vesicovaginal fistula, the division of the cervix uteri, the enlargement of the orifice of the vagina, and the application of potassa fusa to a large flat nævus upon the chest of a young infant. In all of these cases it answered quite well as an anæsthetic. The child did not waken up for more than an hour and a half after the employment of the caustic, which was used so as to produce a large slough. Its pulse was rapid and weak during the greatest degree of anæsthetic sleep. One of the mice exposed to its influence, and which was removed from the tumbler where the experiment upon it was made, as soon as the animal fell over, breathed imperfectly for some time after being laid upon the table, and then died.

"Chlorocarbon, when applied externally to the skin, acts much less as a stimulant and irritant than chloroform, and will hence, I believe, in all likelihood be found of use as a local anæsthetic in the composition of sedative liniments.

"In two cases of severe hysteralgia I have injected air loaded with the vapours of chlorocarbon into the vagina. The simplest apparatus for this purpose consists of a common enema syringe, with the nozzle introduced into the vagina, and the other extremity of the apparatus placed an inch or more down into the interior of a four-ounce phial, containing a small quanity—as an ounce or so—of the fluid whose vapour it is wished to inject through the syringe. Both patients were at once temporarily relieved from pain."

NEW TEST FOR ARSENIC.

The wonderful delicacy of the previous tests for arsenic which have been thought to be almost perfect, are surpassed by the electrical test. By means of a simple apparatus all the arsenic in a substance may be rapidly extracted. Place a solution of arsenic matter in a platinum vessel, plunge a zinc wire into the liquid, and the arsenic will appear on the platinum; by prolonging the action the whole of the arsenic may be extracted from the compound. This process is superior in sensibility, and as it requires far less manipulation of the suspected substance, is much more trustworthy for toxicological examinations than the methods now in use.

Canada Medical Journal.

MONTREAL, MARCH, 1866.

A HEALTH OFFICER.

Although we have written strongly in previous numbers of the journal of the apathy of the Health Committee—we feel that as they have at at last moved in the matter of sanitary reform, we can extend to them our congratulations upon having taken a step for which the entire city will commend them. The Finance Committee, having agreed to recommend an appropriation of $1600 for the employment of a medical man as Health Officer for the City of Montreal for eight months, the Health Committee advertised for applicants. On the 2nd of this month the Committee met, and opened a number of applications. After mature deliberation, it was decided to recommend the appointment of Gilbert Prout Girdwood, M.D., M.R.C.S.E., late assistant-surgeon 1st Battalion Grenadier Guards; and without detracting from the merits of other applicants, we think, that from the high testimonials presented on behalf of Dr. Girdwood, (a requisition in his favour signed by all the leading English practitioners being presented) the Committee could not well come to any other decision. At the time we write, the Council have not met, and the appointment has not therefore been made, but, in the meantime we congratulate Dr. Girdwood on the probability of his appointment. When made, we trust he will at once enter heart and soul into his work, and practically show the value of his labours—when, we believe, the city will see they cannot dispense with his services. As we said in our last number, the appointment of a Health Officer should be permanent, and we trust that he may so become.

DR. MARSDEN'S PLAN OF QUARANTINE.

In our February number, we inserted an article from our friend Dr. Marsden, of Quebec, giving the details (along with a plan) of a system of quarantine which he has suggested, and which, we understand, he is

urging upon the Government for adoption. Dr. Marsden's experience during the various epidemics which have visited this country has been very extensive, and his opinions are, therefore, entitled to weight, which will, doubtless, be accorded to them. The plan is evidently based upon the theory of the contagiousness of the disease—a question which is still unsettled—and the arrangements to prevent non-intercourse of persons suffering from the affection in its various forms, mild and severe, are very complete. Whether the disease be contagious or not, it cannot possibly be a fault to err in the belief that it is, and take all precautions. Those, therefore, who may disagree with Dr. Marsden in his belief on the contagiousness of the disease, can but admit he errs—if at all—on the safe side. More particularly, however, we believe Dr. Marsden's plan would be an immense service in an epidemic of typhus fever, and other well-known contagious maladies. While our authorities are reflecting upon this plan, or, perhaps, resolved to make no change in the quarantine at Grosse Isle, the New York Board of Health have adopted the plan of Dr. Marsden, and state that a Bill will shortly be presented to Congress, with the intention of making the system complete and universal along the entire American Atlantic coast. To our friend this must be satisfactory; and, should our own Government pass his suggestions by unheeded, it would be but another illustration of the old but true proverb, "A man has no honour in his own country."

A meeting of the medical profession of Montreal, called to consider the expediency of adopting such measures as might be deemed advisable in view of the possible appearance of cholera, was held in the Mechanics' Hall on the evening of the 2nd instant. Dr. George W. Campbell was called to the chair, and Dr. J. L. Leprohon was appointed Secretary. Considerable discussion ensued, and it seemed to be the unanimous opinion of all present that the Council was the proper body to take action in the matter, and as they had already exhibited considerable zeal in proposing various measures—it was not advisable for the profession to interfere.

The appointment of a Health Officer, as suggested by the Health Committee, was highly approved, and after passing the following resolution, the meeting adjourned.

Moved by Dr. Hingston, seconded by Dr. D. C. MacCallum, that the appointment of an efficient Health Officer, with all the powers properly belonging to such office relieves the members of the profession from the necessity of present action in the matter.

We have to thank our readers for the response they have made to our appeal for literary aid, and trust they will continue to forward to us such communications as they may deem of interest. But we must insist upon communications being prepared solely for our journal. In future we will positively decline papers forwarded simultaneously to several journals.

OLEUM ERIGERONTIS CANADENSIS AS A REMEDY IN HEMORRHAGE DIARRHŒA, AND DYSENTRY.

Dr. J. W. Moorman, of Hardinsburg, Ky., recommends in the *American Journal of Med. Sciences* the use of oleum erigerontis canadensis in the treatment of hæmorrhage, diarrhœa, and dysentery. Several favourable cases are related. The usual dose according to the U. S. Dispensatory is from five to ten drops, but Dr. Moorman has given it with benefit in much larger doses—from ʒ ss. to ʒ j. "It may," he says, "be given in a little water, to which a small quantity of sugar may be added. In cases of hæmoptysis, 10 or 15 drops may be placed on a handerchief and inhaled at the same time it is taken internally. The same method will answer in epistaxis. In diarrhœa 15 drops every 4 hours until it is relieved, will in most cases be sufficient." Although in dysentery Dr. Moorman has not obtained the gratifying results claimed by some, more or less advantage has in every case been derived from its use. He concludes: "In heemorrhage and diarrhœa of debility I know of no better remedy, and I trust the profession will give it a trial, and let us know the results."

ANÆSTHESIA BY NITROUS OXIDE GAS.

Dr. Carnochan performed two severe surgical operations on Saturday last, at Ward's Island Emigrant Hospital, while the patients were under the influence of nitrous oxide gas, administered by Dr. Colton. The operations in both consisted in the amputation of the leg above the ankle. The patients said that they knew nothing of what had taken place, while one declared, on waking, that he had not been asleep, and the operation had not been performed! Dr. Carnochan and several surgeons who were present, expressed themselves well pleased with the effects of the gas. It required less than one minute to put the patient asleep, and after the operation was completed, and the gas removed, the patient recovered entire consciousness in about twenty seconds. There was no vomiting or sickness attending or following the operation, and the patient awoke as fresh as from a natural sleep.—*Philadelphia Medical and Surgical Reporter.*

CANADA

MEDICAL JOURNAL.

ORIGINAL COMMUNICATIONS.

The Hypodermic Administration of Morphia. By JAMES ROSS, M.D., Toronto.

Permit me to avail myself of space in the columns of your valuable journal, to direct the attention of the medical profession to the administration of morphia, hypodermically, in various forms of disease to which the human family are very liable.

Every practitioner is fully aware of the good effect of morphia over pain in almost all painful diseases when it can be readily taken into the system by the absorbents; but when the *prima viæ* are so deranged as to prevent the morphia from passing into the circulation, every one will admit the inutility of the medicine; hence in cholera, or in acute gastritis, opium, morphia, and many other medicines may be given in enormous quantities, without producing their characteristic effects; and in many instances those diseases have proved fatal, because the system could not be brought under their powerful soothing influences in time to counteract the powerful morbific influence. But when medicine is applied hypodermically, my experience teaches me, that a given quantity put into the blood produces a positive effect, as the following cases will prove:

Case 1.—Feb. 1860. A lady, aged thirty-five years, had suffered under hemicrania of the right side for four or five months of a periodical character, recurring in severity every evening, who had tried all the usual remedies, both anodyne, and anti-periodic, such as opium, morphia, aconite, arsenic, quinine, iron, &c., but with only temporary relief.

At last, I determined to try the effect of morphia, hypodermically applied, and injected half a grain into the areolar tissue of the posterior aspect of the arm, which in ten minutes produced a peculiar sensation of

dizziness in the head, and within an hour the pain had entirely subsided and she fell asleep. I repeated the operation every evening for ten days, and then every second evening for ten days more, always anticipating the attack, when the pain showed very slight disposition to return, and was completely routed by giving her three drops of tincture of aconite with thirty drops of the Syrup Ferri Iodide three times a day for a few days.

I have seen her repeatedly since, but she has had no return of the pains, and now enjoys good health.

Case 2.—Feb., 1860. A man about thirty summers afflicted with a violent pain in the back of his neck, evidently of a neuralgic character, that had tormented him for several weeks, and had entirely incapacitated him to perform his duty as a labourer in the gas works.

I injected into the posterior part of his arm half a grain of morphia, which gave him relief in about fifteen minutes, and in less than half an hour he felt disposed to sleep. I saw him next day; he had passed a comfortable night, but the pain had slightly returned. I repeated the injection of the same strength, and two days afterwards, I again repeated it, each repetitition being followed by additional relief. I followed up the treatment with three drops of tincture of aconite, and thirty drops of Syrup Ferri Iodide three times a day, and the patient was soon able to resume his occupation. I saw him two months after in good health, when he expressed himself very thankful for the relief he had obtained.

Case 3.—Feb., 1860. A woman, aged thirty, suffering under a violent attack of puerperal mania, who had become so uncontrollable as to cause her friends to call in three policemen, who, when I arrived, were in the act of holding her down upon the bed.

Her pupils were dilated; she was talking incoherently, and severely struggling beneath the iron grasp of her guardians in blue.

Believing morphia would be more conducive towards quieting her troubled mind than the straight jacket, I was induced to insert half a grain beneath the skin of her arm, and at the end of twenty minutes she became quite passive, not requiring to be held, but did not sleep; and two days after I sent her to the asylum, where she subsequently, ten days after, died.

Case 4.—Feb., 1860. A young lady, suffering under an attack of acute inflammation of the left ear, accompanied by intolerable pain, which had been greatly aggravated by pouring chloroform into the ear, by order of some would-be doctor.

I injected into the right arm half a grain of morphia. In ten minutes she began to feel relief, and in half an hour the pain was entirely gone, and the patient slept. I saw her the next day, she had slept nearly all

night, and appeared much refreshed, but had a slight return of the pain. I directed that a warm poultice, as ordered the previous night, should be continued over the ear, and repeated the injection the same strength.

The following day she appeared to be almost well, and expressed herself thankful in the kindest manner for so sudden and unexpected transition to health.

Case 5.—Later in the year, I was called upon to visit a man of middle age, who was suffering under an attack of delirium tremens. He was very restless, and required constant watching. His stomach was very much disturbed, his pulse feeble, and his pupils much dilated. In such cases, morphia or opium will generally act kindly, and I therefore injected half a grain of morphia into his arm, and left him for the night. Next day I was told that he had slept nearly all that night, and was still inclined to sleep. I ordered him to have small doses of morphia by the stomach, occasionally, to keep up the effect, and he made a rapid recovery without further treatment.

Case 6.—Jany. 23rd., 1861. Mrs. D., a young lady aged twenty-four, during the seventh month of utero-gestation of her third child, was seized with an attack of acute gastritis, produced by indiscretion in dieting and over exertion. Her stomach was very irritable, she was vomiting incessantly, her tongue was furred, unquenchable thirst, severe pain in the epigastrium, increased by pressure, and bowels were constipated.

After cleansing the stomach and bowels by warm water drinks and enemata, I administered the whole catalogue of remedies deemed appropriate for such cases, both inwardly and outwardly, which appeared only to palliate the symptoms, not to cure the disease. Consequently upon the 27th, the fourth day of the disease, finding her much prostrated, and unable to retain a spoonful of cold water upon her stomach, I determined to try morphia hypodermically, and injected half a grain into her left arm. At the end of fifteen minutes she closed her eyes in sleep. I saw her again at the end of half an hour, when she was sleeping calmly. The anxiety and distress, that had dwelt upon her countenance for the past four days, had now given place to a calm and happy expression. The next day, at nine A.M., she was still inclined to sleep; had slept five or six hours during the night without intermission, and had not vomited since the application of the needle. In the evening she was still better, but complained of slight pain in the stomach, had taken some gruel, and had had no return of the vomiting. I again injected half a grain into the arm, and left her for the night.

Jan 29. Had slept considerably during the night, felt comfortable

and still inclined to sleep. Ordered broth. In the evening continued favourable, but still complained of tenderness in the epigastrium, which appeared to be in the abdominal muscles, near their attachment to the ribs and sternum, no doubt, produced by the excessive vomiting.

I applied the needle over the ensiform cartilage, and injected one fourth of a grain of morphia.

The next day, Jany 30th. she experienced marked relief, and expressed herself comfortable. The bowels being constipated I ordered her to take a teaspoonful of magnes : sulph : and repeat every three or four hours until the desired effect should be produced. Jan 31st. Bowels moved and doing well, ordered beefsteak and roasted potato. I saw her again several days after when she appeared quite relieved but weak; and continued to improve until March 1st, when she again sent for me. She was then threatened with the same symptoms, which had been produced by overloading her stomach with a variety of indigestible articles. Her full term of gestation being now nearly completed, I induced labour as a palliative measure, and delivered her in about eight hours of a healthy, living child. The next morning, the after pains being very severe and her stomach rejecting everything, I injected half a grain of morphia into her arm which was followed by marked relief. I repeated the dose in the evening of the third, and again on the morning of the fourth, same strength, each application being followed by additional relief. March 5th much better, and did not require the needle. In the evening she complained of a slight cough, for which I prescribed a mild cough mixture and cautioned her against sitting up, as she was disposed to do, the weather being extremely cold. The next morning she had a severe chill; pleuro-pneumonia of both sides set in, and she died two days after.

Case 7.—August, 1861. A man aged twenty-five, whom I saw in the early part of the day afflicted with rheumatism, and for whom I prescribed a mixture containing three drops of tinct. verat. veridi : and eight grains of potassia : acetat, in every teaspoonful, but instead of giving one teaspoonful, the dose prescribed, his wife gave him a dessert-spoonful, which contained nearly three times as much, and before bedtime, he having taken three doses, vomiting severely after each dose, and being excessively prostrated, I was sent for in great haste, and not without good reason, for when I arrived I found him very much prostrated, retching violently, and a tough ropy mucous was issuing from his mouth, which indicated poisoning from the verat. verid. He could not speak audibly, his pulse could scarcely be felt, his countenance appeared ghastly, his skin cold, and bathed in perspiration, and his pupils were widely dilated; in fact he appeared upon the very verge of dissolution. I im-

mediately applied the hypodermic needle, and injected half a grain of morphia into his arm. Five minutes after the injection the retching ceased, and in half an hour, his pupils contracted, and he fell asleep. I saw him next day. He had slept six or eight hours, almost without intermission, and now felt comfortable, and expressed himself much pleased because of the sudden disappearance of his rheumatism. He made a rapid recovery without further treatment, and in a few days was able to walk about.

In this case I do not attribute the sudden cure of the rheumatism to the morphia, but to the verat. verid. The morphia however saved his life, and could not have been administered in any other way with timely effect to arrest the poisonous action of the veratrum.

I come now, to the treatment hypodermically, of Cholera Canadensis, to which I wish more particularly to draw the attention of the Medical profession, because it is a disease that has proved very troublesome, and unmanageable to every practitioner acquainted with it; not because medicine could not be found to control the horrid symptoms which so rapidly prostrate the vital powers of its victim, but simply because it could not be introduced through the usual channels, in sufficient quantity, and with timely speed to arrest the devastating power of the choleraic poison.

The stomach, and bowels, the great thoroughfare through which the system is fed and nourished having become so deranged, that nothing can be digested, or absorbed; but on the contrary, that which is within, —the fluids, and in the fluids, the solids of the body, are constantly pouring out, and with them vitality also.

And having noticed in the case of gastritis and also that of poisoning by verat. virid. before mentioned, that the vomiting and retching was so quickly relieved after the administration of the morphia, I felt satisfied that cholera might be relieved in the same way, and the opportunity for trying it was soon afforded me.

Case 8.—August, 1861. A lady aged thirty was seized with cholera; her symptoms were excessive vomiting and purging, rice-water evacuations, cramps in the muscles of the extremities, pulse feeble, countenance pallid, lips livid, and her skin bathed in clammy perspiration. She had been a woman of full plethoric habit, but was now pale and prostrated.

I administered all the usual remedies in such cases, such as rinsing the stomach thoroughly with warm water, applying sinapisms to the epigastrium and extremities, and giving calomel, opium, morphia, chalk, and hydrocyanic acid by the stomach, but without any permanent relief to my patient. After the lapse of several hours, finding the symptoms growing worse, I determined to try morphia hypodermically, and inserted nearly half a

grain into her arm, and in half an hour I was pleased to find a most favourable change. Next day she was much better, had not vomited during the night, and only twice up to 10 a.m. which was caused by the patient rising up to take a drink. Her bowels had not moved, she had slept occasionally and still seemed inclined to sleep. I saw her again in the evening of the same day, when she appeared more restless, and complained of slight pains and rumbling in the bowels. I repeated the injection of half a grain, and saw her the next day. She had slept well, and was much improved, and could bear nourishment upon the stomach, the bowels remained undisturbed, she convalesced rapidly, and is now enjoying good health.

Case 9.—August, 1862. Mrs. J. C. was suddenly seized with cholera, six or eight hours previous to my arrival, and was supposed to be in a dying condition. I found her much prostrated, skin pale, cold, and bathed in clammy perspiration, lividity of the lips, pulse almost imperceptible at the wrists, incessant vomiting, and purging; the evacuation being of the rice-water character, and her limbs contorted by agonizing spasms which caused her to shriek aloud, her voice husky, hoarse, and almost unintelligible.

The coldness of the tongue and fauces was very marked, which appears to be characteristic of the advanced stages of cholera. I immediately inserted half a grain of morphia beneath the skin of the arm, and then watched its effects.

The purging ceased in ten minutes; she never vomited after the application of the needle, and within half an hour she lay calm and quiet in sleep.

I directed the nurse to give her some rice water or gruel, if awake, and left her for two hours. On my return she was still sleeping, neither stomach nor bowels having been disturbed; she breathed naturally; her pulse was more perceptible, and her countenance began to resume its usual expression. She slept for eight or ten hours, almost without intermission, after which she began to take nourishment, in the form of gruel and milk, and continued to improve. About the third day the bowels not having moved, I gave her a mild purgative, and directed that she should be kept quiet in bed for a few days until she regained her strength, which she did rapidly, and now, in 1866, she is still living.

Case 10.—July, 1863. An old dissipated man, of over eighty winters, had been seized with cholera twelve hours previous to my arrival. I found him very much prostrated, skin cold, lips livid, pulse could scarcely be felt, the stomach and bowels constantly moving, the voice husky, the tongue and fauces cold, and the legs cramped.

I injected half a grain of morphia into his arm, and within forty minutes the symptoms were relieved, and he fell asleep. I visited him occasionally throughout that day, and he appeared comfortable; the purging and vomiting having entirely ceased. I saw him again the next day. He was much better, the stomach and bowels were still quiet; but being a very old man whose constitution had been shattered by dissipation, and having been allowed to suffer for twelve hours before any relief had been sought for, he gradually sank from exhaustion.

I might enumerate several other cases, but let the above suffice to draw the the attention of the profession to this very important subject.

In all these cases I used the "sulphate of morphia" in solution, prepared as follows

℞ morph. sulph. grs. xxx ij.
Acid sulph. gtts. ij.
Aquæ ℥ ij. M.

Consequently every ʒ contains grs. ij. and xv m. half a grain, the usual dose employed.

The instrument used, was made by Teiman of New York, after the plan suggested by Dr. Alexander Wood, and consisted of gutta-percha, with capacity to hold half a drachm, having four graduations upon the piston; the nozzle a hollow, sharp-pointed needle being made of platinum.

The power, of morphia, as an anodyne, anti-phlogistic, and anti-spasmodic, is undoubted, when a certain quantity is directly introduced into the circulation, its effect is prompt and decisive; and as an antidote to cholera, I belive, will be found perfectly reliable.

In neuralagia, some objections may be raised to the exhibition of morphia, because of the nausea, and vomiting which sometimes follow its use; but in gastritis, or cholera, when these symptoms are always present, and distress the patient so much, it certainly cannot aggravate, but, according to my experience, invariably arrested them when administered hypodermically, and when proper precautions were taken to keep the patient in the recumbent posture, with the head upon a level with the long axis of the body until its effects had passed off.

I hope that the facts, as above related, will prove interesting to my professional brethren, and beneficial to suffering humanity.

I have omitted to state that, in over forty cases where I have used the hypodermic needle, there has been no local irritation, requiring treatment at the seat of puncture; and therefore no fears need be entertained in that direction.

J. R, M.D.

74 Caroline Street, Toronto, March 5th, 1866.

The Optical Defects of the Eye, and their Treatment, by the Scientific use of Spectacles. By A. M. Rosebrugh, M.D.

(Continued from page 411.)

Chapter III.—Myopia.

Concave Lenses. — Before proceeding to the consideration of Myopia, it will be well for us to glance at some of the properties of concave lenses; and, in order to simplify the subject, we will confine ourselves to equi-concave lenses. An equi-concave lens is bounded by two surfaces, which are portions of the concave side of two circles which have equal radii.

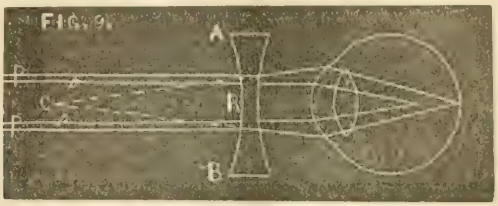


Fig. 9. A, B, one of the concave surfaces of the lens. C is the centre of curvature, and C, R the radius of curvature. When parallel rays, P, P, strike one surface of the lens, they have divergence upon leaving the second surface of the lens, as if they proceeded from the centre of curvature, C, which, in an equi-concave lens, is also the principal focus of the lens. C, R is the focal length of the lens. In a convex lens, the focus is measured *behind* the lens; in a concave lens, it is measured *in front* of it. If we call the focus of the convex lens positive, we must call the focus of the concave lens negative. When parallel rays of light fall upon a convex lens, they are converged to a focus. When they fall upon a concave lens, they are made to diverge. A convex lens enlarges, and a concave diminishes the apparent size of objects. The focal length of a convex lens is measured behind; and that of a concave lens, in front of the lens. They are, therefore, entirely opposite in all their properties; and, for this reason, a convex lens is called a positive lens; and a concave one, a negative lens. Or, shorter still, they are indicated by the plus (+) and minus (—), algebraic symbols; thus, + 5, and — 5; or, + $\frac{1}{5}$, and — $\frac{1}{5}$. To ascertain the focal length of a concave lens, we ascertain what convex lens it will neutralize.

1. In a myopic eye, parallel rays, as well as those that have a certain degree of divergence, are focussed *in front* of the retina; and, the inverted image of distant objects being formed in the same position, the picture upon the retina will be ill-defined, and vision for distant objects consequently indistinct.

Patients with myopia complain that, although their vision for near objects is perfect, they cannot see objects at a distance with any distinctness. They can read the smallest type, when brought near the eyes, even better than persons with normal vision, but they are not able to recognize their friends at a distance of fifteen or twenty feet.

In order to enable such persons to see distinctly at a distance, it is necessary for them to wear concave spectacles of such a strength, that the parallel rays from distant objects may have such a degree of divergence, that, falling upon the myopic eye, they may form a focus upon the retina. Theoretically, we should prescribe concave glasses of such a strength that their focus will correspond with the patient's "far" point. Thus, if the "far" point be 12 inches, we should prescribe — 12, as a twelve inch concave lens, placed before such an eye, will give parallel rays from distant objects the same degree of divergence as if they proceeded from the "far" point of the eye; namely, at 12 inches from the eye. Thus, in Fig. 9, P, P, represent parallel rays falling upon the concave lens, A. B.; they are made to diverge, as if coming from the focus, C, and falling upon the eye divergently, they are focussed upon the retina at F. Practically, however, we would find that — 12 would be rather too strong, and that — 15, or — 16 would probably answer better. As a rule, the weakest glasses should be worn that will enable the patient to see distant objects with distinctness.

In testing the degree of myopia, we use a series of test types that are so constructed that No. I (smallest) can be distinctly seen and read by a person having normal vision, at a distance of 1 foot; No. II, at 2 feet; No. V, at 5 feet; No. XX, at 20 feet; and so on. A specimen of these types will be annexed to this paper. The types are also used in testing the acuteness of vision in Presbyopia, Hypermetropia, Amblyopia, &c.

2. In determining the degree of myopia in any case, we ascertain the greatest distance at which No. I test types can be read distinctly; if at 10 inches, the "far" point will be at 10 inches, and the myopia would be called $\frac{1}{10}$; if at 6 inches the myopia would be called $\frac{1}{6}$. From this we can, as stated above, get a proximate knowledge of the strength of the concave lens necessary to relieve the myopia.

3. A myopic eye, when in a state of rest, is adjusted for diverging rays. To enable such an eye to see distant objects, that is, to bring parallel rays to a focus on the retina, it is necessary to give these parallel rays a preliminary degree of divergence by the interposition of the proper concave lens.

Myopia can be distinguished from every other defect of vision, by the

fact that concave glasses improve vision for distant objects. If we have no concave glasses convenient, we can diagnose it from Amphyopia, (insensibility of the retina) by the following ready method :—A person with normal vision can read distinctly, No. I test type at 12 inches, and even a little farther. We will suppose that a patient's vision is so impaired, that he can only read No. II at 6 inches; if he is *not* also myopic, he can also read No. IV at 12 inches, or No. LX at 180 inches—that is at 15 feet However impaired then a person's vision may be, unless he be also myopic, he can see as well proportionately, at one distance as at another. On the contrary, a person with myopia, say $\frac{1}{6}$, can see the smallest type (much smaller than No. I,) at 6 inches, but he cannot see No. II, or even No. V, at 12 inches.

This disease is often hereditary. Over exertion of the eyes upon near objects at the age of puberty, (about 14 or 15) is a very frequent cause of myopia.

Short-sighted persons often inquire if we would advise the use of spectacles. There can be no objection to wearing glasses that will enable them to see distant objects; for their eyes are thus changed to normal ones, but as most persons use their eyes much more frequently upon near than upon distant objects, the glasses should be no stronger than necessary. Some contend, however, that short-sighted persons should dispense with glasses for reading, writing, &c. Prof. Donders, however, recommends their use for this purpose, for the following reasons :—

1st. " Because strong convergence of the optic axes is necessarily paired with tension of the accommodation. The latter is an associated action, not arising from the mechanism of the convergence, but existing within the eye itself, and may consequently easily lead to an increase of the myopia. Besides this, the pressure of the muscles upon the eye ball appears to be greater when the optic axes are convergent, than when they are parallel, and this increase of pressure cannot but tend to give rise to the development of posterior staphyloma.

2nd. " On account of the habit which short-sighted persons have of bending their head forwards during reading or writing. This must cause an increased flow of blood to the eye, and an increased tension within the eye itself. Owing to this development of sclerotico-choroiditis posterior, effusions of blood and detachment of the retina, which are so apt to occur in short-sighted persons, are undoubtedly greatly promoted. For this reason, we should always tell these patients to read with their head well thrown back, and to write at a sloping desk. But it may, on the other hand, be urged that it is just in looking at near objects that myopic persons have an advantage, for they can see them remark-

ably distinctly. And the great danger is, that after reading for a short time with spectacles, the patient, on getting somewhat fatigued will, instead of laying the book aside, approach it nearer to the eye, in order to gain greater retinal images, and thus strain and tax his power of accommodation too much. If we, for instance, give a patient whose far point lies at 8 inches, a pair of spectacles which enable him to read at 12 inches, he will if not very careful, after a short time almost insensibly bring the book nearer to his eyes, and thus have to make use of a greater amount of accommodation. If he does this frequently, he will soon increase his myopia. The greater the range of accommodation the less harm will spectacles do, and *vice versâ*. Spectacles may also be used for near objects in these cases of myopia in which asthenopia (depending upon insufficiency of the internal recti muscles) shows itself as soon as the patient has read or worked at near objects for a short time. Whilst those forms of myopia may be furnished with spectacles for near objects, it is very dangerous to permit their use in patients whose range of accommodation is very limited, and who, moreover, suffer, perhaps from such an amount of amblyopia (generally depending upon selerotico-choroiditis posterior) that they cannot read No. 4 or 5 Jager even with the most accurately chosen glasses. Such patients will bring the object very close to the eye, in order to obtain large retinal images, the accommodation will be greatly strained, the intra-ocular tension be increased, and great mischief will be sure to ensue. If there is much amblyopia, spectacles should not be permitted at all for near objects."*

In cases where the myopia is extreme, there usually co-exists posterior staphyloma of the sclerotic. Von Græfe says it is present in all cases of myopia where the "far" point is less than five inches; the myopia being less than $\frac{1}{5}$. Out of sixty cases of myopia examined by J. Z. Laurence, forty-four had posterior staphyloma.

The presence of this disease can be easily diagnosed with the ophthalmoscope. (See Hulke or Zander on the ophthalmoscope.)

Posterior staphyloma is a serious complication in myopia, as the sensibility of the retina becomes more or less impaired in the position of the bulging of the selerotic, and in some cases the retina becomes detached from the choroid. It is the existence of this disease that prevents improvement in cases of myopia, as the eye becomes flattened with advancing age.

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* Mr. J. Z. Laurence, of London, recommends that deeply concave lenses be *tinted*, in order to obviate their "dazzling" effect.—(Med. Times and Gazette, Oct. 22nd, 1864.)

Donders considers that in myopia, the antero-posterior diameter is alone at fault; that is, it is too much elongated, and that the cornea and crystallline lens have usually a normal curvature.

The characteristics of a myopic eye, are *

1st. Parallel rays are focussed in front of the retina.

2nd. The "far" point is at a definite distance and positive.

3rd. When the eye is in a state of rest it is adapted for divergent rays.

4th. Concave glasses improve vision.

Chapter IV.—Hypermetropia.

You will remember that when a normal eye is in a state of rest, and directed to a distant object, parallel rays are brought to a focus upon the retina, and that when a myopic eye is in a state of rest, parallel rays are brought to a focus in front of the retina. When, however, a hypermetropic eye is in a state of rest, parallel rays would (if continued) form a focus behind the retina. Hypermetropia is, therefore, the reverse of myopia. In myopia, the refractive power of the eye is excessive, and in hypermetropia it is not strong enough. When the accommodation of a myopic eye is paralysed, it has the power of focussing none but diverging rays upon the retina, but a hypermetropic eye under the same circumstances can focus only converging rays upon the retina. The "far" point of a myopic eye is at a definite distance and positive, but the "far" point of a hypermetropic eye is at a definite distance and negative. Concave glasses improve the vision for a myopic eye, and convex for a hypermetropic one.

This is an affection which has received very little attention until within the last ten years. It was indeed noticed by Dr. McKenzie of Glasgow, in 1841, but it was not until about five years ago that Prof. Donders, of Utrecht, from his elaborate researches on this subject, first pointed out how common this affection is, and how frequently it is the sole cause of that peculiar weakness of sight (formerly so little understood) called asthenopia.

Donders believes that this condition of the eye depends more upon a shortening of the antero-posterior diameter of the eye, than upon a too low degree of its refractive power; that the cornea and crystalline lens have a normal degree of curvature, and that parallel rays would form a focus at the normal distance behind the lens, were the retina far enough back to receive it.

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* From Donders' system of classification.

A very good illustration of a hypermetropic eye is one in which the crystalline lens has been removed in the operation for cataract. To enable such an eye to see distinctly, even distant objects, it is necessary to place in front of it a strong convex lens of about four inches focus, called a cataract glass. The eye having too low a refractive power to converge rays to a focus, on the retina, it is necessary to give rays falling upon the eye, a preliminary degree of convergence; the eye having sufficient power to complete their refraction to a point upon the retina. We do the same thing in relieving cases of hypermetropia.

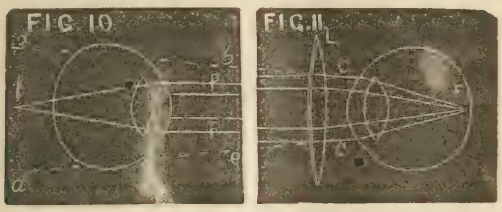

Fig. 10 represents a hypermetropic eye in a state of rest. P, P are parallel rays which are focussed behind the retina at f. L, Fig. 11, is a convex lens which changes the parallel rays to convergent ones, at c, c, as if they came from the direction *a b* and *d e*, which again are refracted by the eye, and brought to a focus upon the retina at F.

When a hypermetropic eye is in a state of rest, and directed to distant objects, it is adjusted for convergent rays; images upon the retina will consequently be ill defined, and vision will be indistinct. To remedy this, it is necessary for the eye to increase its refractive power by increasing the antero-posterior diameter of the crystalline lens, so as to bring parallel rays to a focus on the retina.

When a person with hypermetropia attempts to read or write, or accommodate his eyes to short distances, it is necessary for him to tax his accommodation to its utmost extent, in order to bring the diverging rays to a focus on the retina. This excessive effort at accommodating the eye for short distances, can not be kept up for more than a few minutes, when the ciliary muscle begins to relax,—the "near" point commences to recede, and (if he is reading) the letters become indistinct. The eye also feels fatigued, and others symptoms arise which will be referred to when speaking of Asthenopia.

Diagnosis.—When we suspect a patient has hypermetropia, we test his eyes as follows:—We place series of test-types, No. xv., xx., xxx., &c., at a distance of about 20 feet. If he can read No. xv. or xx. at this distance, his acuteness of vision is normal. We then try his vision with weak convex glasses, say No. 50, and if he can read the same type, at the

same distance, we try successively Nos. 40, 36, 30, 24, &c., until we reach the glasses that render the test type indistinct at that distance. Some persons may possibly be able to relax their accommodation so as to see as well at a distance, with convex 50 lenses, as without them; and not be hypermetropic; it would, however, be very strong presumptive evidence of its presence; and if, in addition, the patient complain of the symptoms of Asthenopia, we would be generally safe in pronouncing it a case of hypermetropia. The shorter the focus of the lens he can use, the stronger is the presumptive evidence of the disease.

Again: if another patient be tested with the same type, at the same distance, and we find that he can not read a smaller type than No. XL. at 20 feet without spectacles, and that he can read No. XV. or XX. with convex glasses, say + 10 or + 12, this would be called a case of hypermetropia *absolute*.

In order, however, to test accurately the degree of hypermetropia in any case, it is necessary to neutralize one element in the refractive power of the eye; namely, the power of accommodation. In most cases of hypermetropia, particularly in young subjects, the accommodation of the eye is so constantly exercised, even when directed to distant objects, that it is quite impossible for them, by any effort of their own, to completely relax that accommodation. I related in a former chapter, the case of a patient who had lost the power of accommodating his eye to different distances. As the refraction of his eye was normal, parallel rays were brought to a focus upon the retina, and vision for distant objects remained perfect.

Had his eye been hypermetropic, parallel rays would not have been sufficiently converged by the refractive power of the eye, to form a focus upon the retina; vision would, consequently, have been indistinct. By placing, however, the proper convex lens in front of such an eye, the requisite preliminary convergence would be given to the rays, to enable the eye, with its low refractive power, to focus these rays upon the retina, and thus render vision distinct.

The lens used in such a case would indicate the degree of hypermetropia. If the lens were a + 15 inch, the hypermetropia would equal $\frac{1}{15}$, if a + 10, the hypermetropia would be $\frac{1}{10}$, and so forth.

We have, however, the means of temporarily producing this condition of the eye by artificial means. By applying a four grain solution of atropine to the eye, within two hours the action of the ciliary muscle will be completely paralysed. A solution of one grain of atropine to an ounce of pure water (also a solution of the extract of belladonna) will dilate the pupil widely, and in some cases, will render the eye slightly presbyopic, but it will not paralyse the accommodation.

If we test, in this manner, the case of suspected hypermetropia mentioned above, and find that after his accommodation is paralysed, he is not able to read No. XXX. even with + 50, and that the only glass with which he can read No. XV. and No. XX. at 20 feet is + 20; his hypermetropia is therefore $\frac{1}{20}$. But as he could see as well with + 50 as without them, before his accommodation was paralysed; he had a manifest hypermetropia of $\frac{1}{50}$. The difference between his total hypermetropia, and his manifest hypermetropia will give the amount of the *latent* hypermetropia, which he overcame with the exercise of his accommodation, namely, $\frac{1}{33\frac{1}{3}}$, thus $\frac{1}{20} - \frac{1}{50} = \frac{1}{33\frac{1}{3}}$. *

Asthenopia, according to Donders, depends almost invariably on hypermetropia. He describes it as follows: "The power of vision is usually acute,—and nevertheless, in reading, writing, and other close work, especially by artificial light, or in a gloomy place, the objects after a short time, become indistinct and confused, and a feeling of fatigue and tension comes on in, and especially above the eyes, necessitating a suspension of work. The person affected now often involuntarily closes his eyes, and rubs his hand over the forehead and eyelids. After some moments' rest, he once more sees distinctly, but the same phenomena are again developed more rapidly than before."

According to my own experience with these cases, the above description corresponds very closely with the description that most patients give of their symptoms. Some give more prominence to the neuralgic pains which they experience in and around the eye, and in some cases extending to the back of the head. I was consulted, about a year ago, by a lady from the town of Simcoe, C. W., who had all these symptoms in the most aggravated form. If she attempted to read even one line, it gave her so much pain in her eyes and forehead that, for several years, she had scarcely dared to even raise the lid of a book. She was unable to keep her eyes upon any one object for more than an instant at a time, without causing her pain. Others, again, do not speak of any pain or fatigue of the eye; but that, after reading a short time, the letters become indistinct, so that they are obliged to stop or look away at something distant, or close the eyes for a short time, when they can proceed, the same symptoms recurring.

In regard to the *prognosis* in hypermetropia, Donders thinks that when it is once developed it never gives way. All the inconvenience of the accompanying Asthenopia can be relieved by wearing the proper

* Hypermetropia can easily be diagnosed with the ophthalmoscope.

glasses to relieve the hypermetropia; but the cause, namely (in most cases), a congenital flattening of the eye-ball from before, backwards, will probably remain through life.

As age advances, the "near" point recedes from the eye, as in a normal eye, so that in time it becomes complicated with presbyopia.

Treatment.—In order to correct this optical defect, it is necessary for the patient to wear a pair of convex spectacles of sufficient strength to enable him to see distant object distinctly, without any effort of the accommodation. In cases where the hypermetropia is absolute, and the patients are not able to see distinctly at any distance, they can, approximately, by trial, select glasses that will remedy the low degree of refraction of their eyes. But, in all other cases, it is necessary to paralyse the accommodation, and test with lenses of different strength in order accurately to ascertain the degree of hypermetropia. When we ascertain this fact, we also know the number of the glasses that we must prescribe for them. The effect of the atropine usually lasts about a week, after which the patient can commence wearing glasses. Before, however, he use the spectacles that he is to wear permanently, his accommodation must first be gradually relaxed by the use of weaker lenses. Donders' rule is to prescribe first that glass that will neutralize his manifest hypermetropia, and $\frac{1}{4}$ of his latent hypermetropia, and every two or three weeks change them for a stronger pair, as he becomes accustomed to their use, until the glasses are reached that we found to be necessary to correct his hypermetropia. Thus if a patient has a total amount of hypermetropia equal to $\frac{1}{10}$, and a manifest hypermetropia of $\frac{1}{20}$, his latent hypermetropia ($\frac{1}{10} - \frac{2}{20} = \frac{1}{15}$), would equal $\frac{1}{15}$; one fourth of $\frac{1}{15}$ is $\frac{1}{60}$; this, added to $\frac{1}{30}$ ($\frac{1}{30} + \frac{1}{60} = \frac{3}{60} = \frac{1}{20}$), equals $\frac{1}{20}$. We would therefore prescribe, at first, 20 inch convex spectacles, which we should afterwards change successfully for + 18, + 16, + 14, &c., until he has so relaxed his accommodation that he can, with ease, wear + 10. It wil not be until he becomes accustomed to this last pair that all his symptoms of Asthenopia will disappear.

Strabismus.—Prof Donders was the first to direct attention to the fact, that nearly all cases of convergent strabismus arise from the presence of hypermetropia. We know that when both eyes are directed to a near object, they are very much converged, the optic axes cross at the point to which they are directed. If one eye be covered, and the opposite eye be accommodated for its "near" point, the covered eye will be found to be very decidedly converged towards the nose,—to have, in fact, a temporary convergent squint. This arises from the constant association of the act of accommodating the eye for short distances, with the act of con-

tracting the internal recti muscles. The hypermetropic, however, being obliged to exert the accommodation of their eyes, even when looking at distant objects, it is easy to understand that they would be inclined to contract their internal recti-muscles unduly, so as to increase this power of accommodation. This converges the eyes to a point at a nearer distance than the object looked at, and causes one of the eyes to turn inwards, while the other is fixed on the object. When, therefore, they wish to see distinctly with one eye, they instinctively turn in the other. At first the convergent strabismus is seen occasionally only, and in this stage may be prevented by using the proper spectacles to correct the hypermetropia. After the squint has existed sometime, it becomes confirmed, and cannot be cured without an operation.

If the convergence exceeds three lines, a partial tenotomy, upon each eye, should be performed, and the effect controlled by a conjunctival suture, by which means we have the power of regulating our operation, in proportion to the effect we wish to produce.

When Strabismus shows itself in childhood, it should be treated without delay, for, if not corrected, the vision of the "cross-eye" will very soon become impaired.

To get the full benefit of spectacles, in cases of hypermetropia, they should be used both on the street, and at church, as well as when reading or writing,—in fact whenever the eyes are used.

The characteristics of a hypermetropic eye then are:

1st. Parallel rays form a focus behind the retina.

2nd. The "far" point is at a definite distance and negative.

3rd. The eye, in a state of rest, is adjusted for convergent rays.

4th. Convex glasses improve vision.

5th. This affection is usually accompanied by symptoms of Asthenopia and Amblyopia, and frequently by convergent Strabismus.

Chapter V.—Presbyopia.

This affection usually develops itself between the ages of 40 and 45. Most persons at this age, although previously enjoying excellent vision, complain that their sight, particularly in the evening, is beginning to fail for near objects, as small print, &c., although they can see distant objects as well as ever.

In reading they will hold the book or paper at nearly arm's length and perhaps bring the lamp almost between their eyes and the page. Reading in this manner soon fatigues them, and they are obliged frequently to rest,—or to resort to spectacles.

In childhood, when the vision is normal, the "near" point is from $3\frac{1}{2}$

to 4 inches from the eye, and the "far" point at an unlimited distance; that is, we can see objects distinctly as near as from $3\frac{1}{2}$ to 4 inches from the eye, and we can see objects clearly (the size being in proportion to the distance) from that to an indefinite distance. As age advances the "near" point recedes. At the age of 40 the "near" point is about eight inches from the eyes. When the "near" point recedes to a greater distance than 8 inches, Donders calls it a case of presbyopia; Laurence, however, thinks that it should not be called presbyopia unless the "near" point is at least 10 inches from the eye.

Presbyopia, then, is not an optical defect of the nature of myopia or hypermetropia, but is simply a lessening of the accommodative power of the eye.

It is supposed to depend upon, or to be caused by, the crystalline lens becoming hardened as age advances, so that it does not yield sufficiently to the contraction of the ciliary muscle.

In a case of pure presbyopia where, for instance, the "near" point is 12 inches from the eye, vision will remain normal for all points beyond that distance. When the "near" point is 12 inches distant, and the "far" point at an infinite distance, the accommodation is only $\frac{1}{12}$. Taking eight inches as the normal "near" point, $\frac{1}{8}$ would represent the normal accommodation. Deducting $\frac{1}{12}$ from $\frac{1}{8}$ gives the degree of presbyopia thus $\frac{1}{8} - \frac{1}{12} = \frac{1}{24}$. The degree of presbyopia in this case would then be $\frac{1}{24}$ This fraction $\frac{1}{24}$ also represents the strength of the glasses necessary to correct the presbyopia, namely, 24 inch convex. Practically, we would probably find that a pair of 30 inch convex would answer better, as the weakest glass that can be worn with comfort, is the one that should be prescribed. Again, if a person's "near" point be at 16 inches, his presbyopia ($\frac{1}{8} - \frac{1}{16} = \frac{1}{16}$) will be $\frac{1}{16}$, and a 16 inch convex lens would enable him to read at 8 inches.

"There can no question as to the advisability and necessity of affording far-sighted persons the use of spectacles. They should be furnished with them as soon as they are in the slightest degree annoyed or inconvenienced by the presbyopia. Some medical men think that presbyopic patients should do without spectacles as long as possible, for fear the eye should, even at an early period, get so used to them as soon to find them indispensable. This is, however, an error, for if such persons are permitted to work without glasses, we observe that the presbyopia soon rapidly increases."*

If, however, we call all cases presbyopia, where the "near" point recedes to a greater distance than eight inches from the eye, it will follow

* J. Soelberg Wells.

that we may have presbyopia in cases of myopia and hypermetropia. If a person's far point be at 20 inches from the eye he would be called *near-sighted*, and if his near point recedes to 10 inches from the eye, he would be also *far-sighted*.

In some persons, as age advances, the "far" point also recedes so as to render the person hypermetropic; this form of hypermetropia seldom exceeds $\frac{1}{24}$. When a person has both hypermetropia and presbyopia, it is necessary for him to use a stronger pair of glasses for reading, &c., than for ordinary use. If a person, for instance, wears a pair of 18 inch convex spectacles to correct a hypermetropia of $\frac{1}{18}$, and as age advances his "near" point recedes to 12 inches, even with the addition of his glasses, it will be necessary for him to wear, for reading, a pair of glasses having a focus of about $10\frac{1}{2}$ inches. Thus $\frac{1}{8} - \frac{1}{12} = \frac{1}{24}$ = presbyopia, this added to the lens to correct his hypermetropia, ($\frac{1}{15} + \frac{1}{24} = \frac{1}{10\frac{1}{2}}$ nearly) equals $10\frac{1}{2}$ nearly.

In the very aged, it is necessary to prescribe glasses that will enable them to read at 5 or 7 inches from the eye, as their vision is usually somewhat impaired.

The following table, constructed by Dr. Kitchener, may give a general idea of the glasses required at different periods of life when the presbyopia is unaccompanied by hypermetropia or amblyopia.

At	40	years,—	36	inch	focus.	At	70	years,—	12	inch focus.
"	45	"	30	"	"	"	75	"	10	" "
"	50	"	24	"	"	"	80	"	9	" "
"	55	"	20	"	"	"	85	"	8	" "
"	58	"	18	"	"	"	90	"	7	" "
"	60	"	16	"	"	"	100	"	6	" "
"	65	"	14	"	"					

Prof. Donders thinks that when there is no hypermetropia present we should generally advise those glasses to be worn that will enable the person to read distinctly No. 1 (smallest) test type at at distance of 12 inches.

There is an optical defect of the eye that is occasionally met with called astigmatism (from α and $\sigma\tau\acute{\iota}\gamma\mu\alpha$), in which horizontal and vertical lines are not brought to a focus at the same distance behind the crystalline lens. It is relieved by glasses specially ground for each case; these glasses are cylindrical. I have seen but one case of astigmatism.

A very comprehensive article on the subject appears in the Medical Times and Gazette, Nov., 1864, from the pen of J. Zachariah Laurence, M.B., of London.

The paralysis of the accommodation of the eye I have already referred to in a case on page 409.

SPECIMENS OF JÄGER'S TEST TYPES.

No. I.—Diamond.

It was the Saturday evening of that same week, and Green the foreman stood, hat in hand, at Mr. Hawkins's parlour door, sullenly and reluctantly taking his leave. There were small piles of silver on the table beside an open ledger, for it was payday. Mr. Hawkins looked busy and preoccupied. "I won't interfere in this matter, Green," he said. "You don't like this fine young fellow, and your spleen

No. II.—Pearl.

always better. If two workmen fight fairly, in honest quarrel, I don't object. It is ten times better than perpetual wrangling, or lying, pettifogging law. Why can't you leave the fellow alone? You've lost the girl. Very well: than lose her with good nature; for, man, you know the old proverb, 'There's as good fish in the sea as ever

No. III.—Nonpariel.

came out of it.' She was'nt the sort of a girl for you. Now, observe this: so end all this scuffle. I shall make Cartier assistant foreman, and manager of the glazing-mills, from Monday next—a fortnight, at least, earlier than I intended. No words about it, or you and

No. IV.—Brevier.

I must part, Mr. Green." Mr. Hawkins looked at the door, and then bent irrevocably over his account books. Saltpetre sulphur, and charcoal, when mixed,

No. VIII.—Long Primer.

contain, in their black, compound grains, a fierce and deadly, though a dormant power. The foreman's heart at that moment held passions

No. X.—Pica.

that possessed evils of a more terrible potentiality; but he bowed, and said nothing. His black hand was

No. XII.—Great Primer.

still on the handle of the door when Mr. Hawkins called him. "Stay," said the

No. XVI.—2 Line English.

manufacturer; I'd almost

No. XX.—Double Paragon.

forgotten the

No. XXX.—Canon.

only thing

No. XL.—5 Line.

to be h

Case of Strangulated Femoral Hernia. By Dr. B. S. Wilson, Roslin, C.W.

On the evening of the 29th of June, 1859, Mrs. Scott, aged 62, of the Township of Rawdon, C.W., while running after cattle, fell, but felt no inconvenience, or any particular injury from the fall at the time. Soon after retiring for rest, she was seized with vomiting, and great pain in the femoral region, which continued to increase in severity until next morning, when I was called upon to attend her. When I arrived, I found her suffering from strangulated femoral hernia. The vomiting was incessant, and the paroxysms of pain of a violent character. After using all the ordinary means to effect reduction, and remaining with her the greater part of the day, and finding everything ineffectual, I suggested an operation, as I thought that it afforded the only chance for her ; but she objected, saying that she would prefer death.

She passed a restless night. Next morning I was again sent for. By this time, I found the symptoms were all aggravated. There was a strong tendency to sink, the pulse being almost imperceptible, and the sweat cold. When, apparently, death was about to close the scene, she consented to an operation.

Having given her aromatic spirits of ammonia and brandy, I at once proceeded to operate, by making a perpendicular incision directly over the tumour; beginning at a little above Poupart's ligament, and extending it nearly three inches downwards, I divided all the parts between the integument and the bowel, which being exposed I found mortified.

The point of stricture being ascertained, which was at Gimbernat's ligament, I relieved it, and pushed back the contents of the bowel strictured, the mortified part of the bowel being left in the wound. The ordinary dressings were applied ; and on the fifth day the mortified part sloughed away, leaving an artifical anus, from which the contents of the bowel continued to escape up till the 1st of September following, when the opening closed. About two years after the operation, I heard of the old lady, who had removed to one of the back Townships, and understood her health was very good.

Wound of the Abdomen. Recovery. By William G. Middleton, Surgeon, Elora, C. W.

About 9 a.m. on Tuesday, the 27th February, I was sent for in great haste to see a young man, who had been fearfully injured at a flax mill about a mile from the village of Elora.

It seems that he had been removing the flax from the scutching machine

with a pitchfork, when he was caught by one of the blades of the machine and the handle of which was projected with great force into the cavity of the abdomen, about an inch below and a little to the left of umbilicus, making a transverse wound one and a half inches in length, through which about a yard of intestine protruded.

On reaching him, I found Dr. Paget supporting the bowel, compressing with his finger and thumb, one of the mesenteric arteries which had been bleeding freely. I at one secured it, and assisted Dr. Paget to reduce the bowel, which was highly congested and distended with gas; after a little difficulty we succeeded in *replacing* the gut, which had been returned into the abdomen by Dr. Paget before my arrival, but which from the man's vomiting, had been again ejected; the wound was immediately secured by three sutures, and adhesive plaster, and a drachm of laudanum given, which was repeated at the end of three hours, when he was removed to bed, with his shoulders raised, and the thighs slightly flexed; his pulse was about seventy, rather weak; the catheter was required at night to empty the bladder.

Wedneday 28th. Has passed a good night, having slept several hours. Pulse this morning seventy-eight, tongue coated; the catheter was used this morning and night; about 1 p.m. there was great pain at the wound. Pulse 100, with flushed face and pain in the head; about ten ounces of blood were taken from the arm and six powders containing two grains of calomel and five grains of Dover's powder were left, with directions to give him one every three hours; fomentation with hot water was freely used, and tea and toast with crackers were given him.

Thursday 1st March. He had a good night. Pulse eighty, the catheter was used in the morning, but it was not required at night; little or no tenderness in the wound or abdomen; ten grains of Dover's powder to be given at night.

Friday 2nd March. Progressing favourably; he passes his water freely, no pain in belly. Pulse seventy-eight.

Saturday 3rd. Still improving; as the bowels have not been moved since the accident; oatmeal gruel and cooked apples were ordered freely.

Sunday 4th. Going on favourably.

Monday 5th. Bowels opened to-day by enema; an ounce of castor oil was ordered; complains of no pain, sleeps and eats well. From this time convalescence was rapid, so that he was able to be up and moving about on the thirteenth day after the accident, when he was desired to use a bandage.

HOSPITAL REPORTS.

Cases of Enteric Fever in Montreal General Hospital, under the care of Dr. D. C. McCallum.

Case 1.

(Reported by Mr. W. Gardner.)

Ellen Mulvenner, aet. 26, a native of Ireland, but has been living in Canada for five years, was admitted to the Montreal General Hospital, on Thursday, the 2nd November 1865, suffering from symptoms of fever. To the date of commencement of the present illness, she has been quite healthy. She is of a dark complexion, black haired, and the state of her nutrition is good. She is a general servant, but does not complain of having been over-wrought; has been accustomed to sleep in a cellar-kitchen. About twelve days ago she was seized with a rigor, which lasted for about half-an-hour, and for the next few days she suffered from frequent returns of a feeling of chillness, alternating with flushes of heat. About three days after the rigor, she was seized with diarrhœa, which lasted for three or four days, but was not severe; she never had more than three or four stools a day, and they were not accompanied with any pain in the bowels. Since then her bowels have been pretty regular. Ever since the rigor she has had very little appetite, and for the first three or four days she had a headache, which was situated about the summit of the forehead. At the time of admission, she was suffering from great heat of skin, frequent, full, and comparatively strong pulse, furred tongue, thirst, loss of appetite, weakness, and general malaise. The appearance of the tongue was somewhat peculiar; resembling that of the organ in scarlatina; the points of the reddened and pretenaturally elongated papillae projected through the white fur which covered it.

Nov. 3rd.—She is suffering from great heat of skin, which is of a pungent burning character, and there is a bright red flush on the face. There are no rose coloured spots on the chest or abdomen, but on the back, in the neighbourhood of the spinous processes of the vertebrae, there are a few spots, which, however, have not many of the characters of the eruption of enteric fever. She does not complain of tenderness on pressure over the abdomen, and on percussion there does not seem to be any tympanitis, no tenderness or gurgling on pressure over the cæcum. The temperature is $104^{\circ}\frac{1}{5}$, the pulse 106; full and moderately strong. The patient is ordered milk diet, with barley water as a drink, together with acid. hydcroh. dilut. m x, and ether chlor m x, every 4th hour.

Nov. 4th.—She is somewhat better, at least expresses herself so. There is less heat of surface, the flush of the face not so bright-red as yesterday, but more of a dusky red. She did not sleep well last night, was restless, and another patient in the same ward, says she moaned in her sleep. The tongue is moist, pretty clean, except a small point near the centre, the papillæ still present the appearance before mentioned. She had one liquid evacuation from the bowels, last night. Pulse 103, temperature $103\frac{3}{5}°$.

Nov. 5th.—She feels somewhat better, tongue is cleaning, and begins to loss the peculiar appearance connected with the elongated and reddened papillæ; surface less heated, moist and perspiring; flushes of the face not at all well marked. No pain on pressure over any part of the abdomen; percussion indicates tympanitis; on pressure over the cæcum there is gurgling. The pulse 96, temperature $100\frac{3}{5}°$.

Nov. 6th.—The case progressing very favourably. The heat of skin diminishes; has no headache, or pain anywhere, does not sleep well at night, perspires occasionally. No alteration in the appearance of the tongue; slight tenderness on pressure over the cæcum, and well marked tympanitis in the corner of the colon. There has been no motion of the bowels since the evening of Nov. 3rd. There are two spots visible on the chest to-day, their diameter is about $1\frac{1}{2}$ lines, they are elevated slightly above the skin, and are obliterated by pressure. Those previously noted on the back are fading. The pulse 96, temperature $101\frac{3}{5}$.

Nov. 7th.—The patient still retains somewhat of a dull and apathetic appearance. The tongue not altered in appearance; she complains of want of sleep in the fore part of the night, but sleeps well enough in the latter part. The heat of surface perceptible to the hand, does not seem to be altered in any way; no improvement in appetite, but she takes all the milk and beef-tea she gets. The tympanitis on percussion over the abdomen is more marked than yesterday, and seems to extend to the small intestines. There was a liquid evacuation of the bowels last night. The pulse 84, no alteration in its volume or strength; temperature 100°.

Nov. 8th.—She says she feels pretty well, but is still very weak; says that she usually has an exacerbation of fever in the evening; that of last evening took place about 9 P.M., and was followed by perspiration. There is scarcely any perceptible flush of the face, but it presents somewhat of a dusky hue. Emaciation is beginning to be apparent in the sharpening of the features, and apparent lengthening of the face; the eyes look more sunken. There is no improvement in the appetite, tympanitis is diminishing, and there is no tenderness on pressure over the abdomen. The pulse 84; temperature $105\frac{3}{5}$.

Nov. 9th.—There is very little alteration in most of the symptoms. There is, however, less tympanitis. There was no febrile exacerbation last evening, and she slept well. The two spots on the chest are still perceptible, but are fading. The pulse 80; temperature $102\frac{1}{5}$.

Nov. 10th.—She feels pretty well to-day; slept well last night; the tongue nearly clean; the appetite is improving; there is very little heat of surface, and it is moist. The tympanitis of the abdomen almost gone. There was a motion of the bowels this morning, of natural consistency. The countenance betrays more intelligence; the pulse 84; the temperature $100\frac{2}{5}$.

Nov. 11th.—The bowels have not been moved since yesterday morning. The spots on the chest are nearly gone; had no febrile exacerbation last evening; pulse 94; the temperature $101\frac{4}{5}°$. Is ordered 4 oz. wine daily.

Nov. 12th.—She is pretty well this morning; there is no tenderness or tympanitis of the abdomen. Last evening about seven p.m., she had headache and felt unwell, and afterwards there was a febrile exacerbation; had an evacuation from the bowels this morning. The pulse 82, the temperature 100°.

Nov. 13th.—She says she is improving in strength, and her appetite is better; rested well last night and had no exacerbation. The surface is moist and moderately warm; the bowels moved this morning; the tongue has a slight white coating towards the centre; has no pain or tenderness anywhere. The pulse 78; the temperature 100°. Is ordered to have her clothes, to enable her to sit up.

Nov. 14th.—Says she is getting stronger; bowels regular, abdomen quite natural; up a while during the day, pulse 96; temperature 102°.

Nov. 15th.—Bowels regular; appetite not much improved; no alteration in any of the other symptoms, sits up a little while each day. The pulse 92, the temperature $103\frac{3}{5}°$. There's nothing to account for the rise in temperature.

Nov. 16th.—The heat of the surface is increased, but it is moist; says she feels hot, but attributes it to the heat of the ward; has been sitting up to-day; appetite not deteriorated; has no cough, no headache, no pain or tenderness anywhere. The papillae of the tongue are redder and seem to project more than for a few days past; there is no fur on the tongue. Pulse 116, temperature $105\frac{2}{5}°$.

Nov. 17th.—The heat of surface remains; the tongue still retains the prominent papillæ noticed yesterday; the bowels moved this morning,

and the evacuation natural; no pain or tenderness of the abdomen, on pressure; no tympanitis on percussion; the abdomen is quite flaccid; she has no headache, rested well last night; physical examination of the chest discovers nothing abnormal. There are no symptoms of local lesion to account for the rapidity of the pulse and increased temperature. Pulse 112; temperature 104°.

Nov. 18th.—Pulse 112, temperature 104½°, no alteration in any of the other symptoms.

Nov. 19th.—Pulse 96; the temperature 102°.

Nov. 20th.—There is more flush of the face than yesterday; the heat of skin is increased and of a burning character. At 3 p.m., yesterday she was seized with pain in the umbilical region, which however did not prevent her from sleeping last night. To-day there is tenderness confined to a small spot of the umbilical region. At about the same time as she was seized with the pain, the bowels commenced to act more freely than natural, and have been moved three or four times since then. The evacuations were attended with pain. The tongue is red and the papillae prominent, the appetite very much impaired. The symptoms to-day would seem to indicate a slight relapse. She is ordered for the diarrhœa pilula plumbi cum opio three times a day. Pulse 110, temperature 104°.

Nov. 21st.—Pulse 96, temperature 104°. She feels very weak, and has very little appetite; the bowels more regular; there is no cough; the tongue still presents the same appearances; she feels somewhat more thirsty than usual; surface is hot, but feels moist.

Nov. 22nd.—Pulse 112; temperature 103½°.

Nov. 23rd.—The pulse 88; temperature 102°. The tongue is changed, and somewhat tender at the edges and tip. There is no alteration in any of the other symptoms, and no new ones discoverable.

Nov. 24th.—Pulse 76; temperature 101⅖°. She feels better, but is still weak; slept well last night; bowels regular; there is very little improvement of the appetite.

Nov. 25th.—Pulse 76; temperature 101°. No alteration in any of the other symptoms. Is ordered the following, ℞ quin sulph gr. i., and acid nitric dilut. mij., three times a day.

Nov. 27th.—She seems to be convalescing rapidly, the bowels regular; the appetite improving. Pulse 88; temperature 100⅖°.

Dec. 4th.—The patient is quite convalescent; appetite pretty good; is sitting up; looks much better; her appetite improves rapidly since she commenced to take tonic.

Dec. 11*th.*—She goes out to-day quite well.

Nov. 3rd	Pulse 106	Temperature $104\frac{1}{5}$
" 4th	" 103	" $103\frac{3}{5}$
" 5th	" 96	" $100\frac{2}{5}$
" 6th	" 96	" $101\frac{3}{5}$
" 7th	" 84	" 100
" 8th	" 84	" $103\frac{3}{5}$
" 9th	" 80	" $102\frac{1}{5}$
" 10th	" 84	" $100\frac{2}{5}$
" 11th	" 94	" $101\frac{4}{5}$
" 12th	" 82	" 100
" 13th	" 78	" 100
" 14th	" 96	" 102
" 15th	" 92	" $103\frac{3}{5}$
" 16th	" 116	" $105\frac{3}{5}$
" 17th	" 112	" 104
" 18th	" 112	" $104\frac{1}{2}$
" 19th	" 96	" 102
" 20th	" 110	" 104
" 21st	" 96	" 104
" 22nd	" 112	" $103\frac{2}{5}$
" 23rd	" 88	" 102
" 24th	" 79	" $101\frac{2}{5}$
" 25th	" 76	" 101
" 27th	" 88	" $100\frac{2}{5}$

Case 2.

(Reported by Mr. Thomas D. Lang.)

Joseph Bond, act. twenty-four, body well developed, native of England; is an engine-driver, his parents are both living and enjoying good health. The patient has always enjoyed good health up to the 15th December, 1865, when he began to feel unwell, complaining of languidness and slight headache.

In a few days he had rigors, headache, thirst, loss of appetite and pains in his back and limbs, followed by a tendency to diarrhœa, more or less drowsiness, and a disinclination to go about. During the day he had cold chills followed during the night by hot skin.

On the third day of his illness he called upon a medical man who gave him some powders which produced two or three evacuations; and in a few days finding himself not improving much he called upon a

second medical man who gave him a mixture which did him some good. He continued the use of this mixture for some time, but finding himself not improving much, he sought admittance to the Montreal General Hospital, and was admitted on the 26th December 1865, under Dr. McCallum, who, on examining him, pronounced it to be a case of enteric fever.

Dec. 27th.—Pulse 84, weak, and dicrotic in the right pulse, temperature 105.3 F.

Tongue dry, fissured, covered with a pale brown fur, papillæ prominent, and edges indented. Heart sound weak, but otherwise normal. Rhonchus heard all over both lungs, but little cough or expectoration. Countenance anxious, conjunctiva pale, pupils slightly dilated, and the cheeks flushed. Abdomen enlarged and resonant on percussion, and careful pressure in right iliac fossa gave pain and caused gurgling. Splenic dulness increased, and tenderness on pressure over liver and stomach. One evacuation of the bowels, during the twenty-four hours, of a brownish yellow colour, and liquid with whitish yellow flocculi.

Some characteristic rose spots on abdomen, chest and back, which readily disappear on pressure. Urine diminished, chlorides diminished, high colored, but no albumen. Ordered milk diet, with beef tea and 1 pint milk extra. ℞. Pot. chloras ʒij. acid, hydroch, ʒ ijs. Vin Ipecac ʒ ij. Syr. Zingiber ℥ ij. mist. camph. co. ℥ viij. a teaspoonful every three hours.

Decr. 28th.—Pulse 86, weak and dicrotic in the right, temperature 104°5 F.; did not rest well during the night; skin hot and dry; countenance more anxious, cheeks flushed, of a pinkish color, and is slightly delirious. Tongue more fissured, rhonchus increased, of a snoring character, accompanied with slight expectoration. Heart's action weak, but otherwise healthy. Typhoid eruption increased. Abdomen more enlarged, tympanitic, gurgling in right iliac fossa, splenic dulness increased, and liver and stomach still tender on pressure. Bowels moved three times during the twenty-four hours. Ordered turpentine stupes to abdomen and chest, with the acetate of lead and opium pill.

Decr. 29th.—Pulse 96, weak and still dicrotic, temperature 104°4 F. Heart's sounds very weak especially the first sound. Countenance more anxious, slight delirium, vivacious and disposed to leave his bed. Tongue more fissured but not so glossy. Rhonchus very extensive and of a loud snoring character, but not much cough or expectoration. Abdomen still enlarged, less typanitic, and gurgling still in the right iliac fossa. Bowels moved four times, and of the usual yellow brown

color. Rose spots very well marked and abundant; had in the morning a severe attack of epistaxis.

Ordered in addition to the above treatment, ℞. Oleum Terebinth, Ether chlor aa. ʒ ij. Vitellus Ovi—1 Aqua ad. ℥ viij.

Dose, a tablespoonful ever four hours.

Decr. 30*th.*—Pulse 84, weak, but less dicrotic, temperature 104°5 F. Bronchitis somewhat better; heart's sounds weak, but otherwise healthy Countenance dull, mind obtuse and wandering. Rose spots increased; skin very hot and dry. Abdomen still enlarged tympanitis increased, gurgling in right iliac fossa; splenic dulness increased, and a considerable tenderness on pressure over liver and stomach. Has had an attack of emesis and epistaxis. Bowels moved once, urine continues small in amount, and contains abundance of lithates, but no albumen. Tongue somewhat improved.

Acetate of lead and opium pills to be discontinued.

31*st. Dec.*—Pulse 92, weaker and less dicrotic; temperature 103°4. Heart's action very weak; no headache; rhonchus still extensive and snoring in character, but very little cough or expectoration; countenance very anxious; vivacious, and disposed to leave his bed. Abdomen as usual, but no gurgling in the right iliac fossa; had slight attack of epistaxis; weaker; rose spots decreased but still visible. Tongue improving; ordered two ounces of wine.

Jan, 1*st.*—Pulse 84, temperature 102°5. Tongue improving; countenance anxious; abdomen more tympanitic, but no gurgling. Bronchitis somewhat better. Bowels moved four times, the stools having the characteristic yellowish brown color. The acetate of lead and opium pill to be given every four hours.

Jan. 2*nd.*—Pulse 90, and somewhat stronger, temperature 103°5; heart's sounds still very weak especially the first rhonchus general but less audible. Abdomen still tympanitic, splenic dulness increased, distension of stomach with tenderness on pressure. Bowels moved once.

Jan. 3*rd.*—Pulse 96, temperature 102°5 F. Heart's sounds stronger than usual. Tongue much improved. Profuse perspiration and sudamina over chest. Abdomen slightly tympanitic, but no gurgling in the right iliac fossa. Bowels moved twice. Bronchitis much better.

Jan. 4*th.*—Pulse 85, temperature 102°4, no headache. Tongue still improving. Bronchitis rapidly disappearing, skin hot and dry. Pain beneath left mamma. Abdomen distended but slightly tympanitic, no gurgling in right iliac fossa, but pain and pressure. Distension of stomach, and the splenic and hepatic dulness increased. Rose colored

spots still visible. Bowels moved five times. Ordered the acetate of lead and opium pill.

Jan. 5th.—Pulse 80, and improving in strength, temperature 103°. Heart's sounds more audible. Tongue improving. Abdomen slightly tympanitic, and gurgling in the right iliac fossa. Bowels moved twice. Skin hot and dry. Bronchitis much improved.

The acetate of lead and opium pill to be discontinued.

Jan. 6th.—Pulse 90, temperature 104°5. Skin very hot and dry. Tongue a little more furred. Bronchitic rales decreasing and of a moist nature; no headache. Bowels moved twice, and tenderness on pressure over liver with conjunctiva slightly colored. Countenance very much improved.

Jan. 7th.—Pulse 86, temperature 103° 5 F, abdomen slightly tympanitic, and tenderness on pressure over liver and stomach. Bowels moved twice. Rose spots still present, but not well marked.

Jan. 8th.—Pulse 96, but stronger, temperature 102° 4. Skin hot and dry, rose spots very indistinct. Abdomen slightly tympanitic, but tenderness on pressure over liver and stomach, not so marked. Bowels moved twice.

Jan. 9th.—Pulse 88, temperature 102° F. Skin hot and dry. Bowels moved twice. Countenance, and other symptoms much improved.

Jan. 10th.—Pulse 84, temperature 102° P. Tongue very much improved; skin cool and moist; no rose spots. Abdomen considerably distended, but very little tympanitis. Splenic dulness decreased, and the liver not so tender on pressure; no gurgling in the right iliac fossa. Bowels moved three times, and appetite much improved. Urine more normal in quantity and quality.

Jan. 11th.—Pulse 78, temperature 99° 5. Skin cool and moist. Abdomen not so tympanitic, no gurgling in the right iliac fossa. Bowels moved twice, and stools becoming natural. Tongue very much improved. Countenance improved.

Jan. 12th.—Pulse 76, temperature 98° 4. Heart sounds quite natural and much stronger. Tongue becoming quite clean. Skin cool and moist. Bronchitic rales gone. Abdomen still slightly tympanitic, but of a doughy feel.

Ordered a mutton-chop.

Jan. 13th.—Pulse 75, temperature 98° F. Abdominal symptoms much improved. Bowels moved three times. Skin more moist and cool. Tongue moist, and only slightly furred. Appetite much improved.

Jan. 14th.—Pulse 78, temperature 98° F. All the symptoms very

much improved. Bowels moved twice, stools natural. Urine normal in quantity and quality.

Ordered full diet.

Jan. 15*th.*—Pulse 70, temperature 98° F. Convalescence continued, and the man left the Montreal General Hospital on the 20th Jan., 1866, quite well.

Case 3.

(Reported by Mr. G. W. Ross, B. A.)

Eliza Laberge, aged 15, a native of Canada was admitted into the Montreal General Hospital on the 28th Dec., 1865.

She had been ill for about a week before applying for admittance—had then only slight fever with headache, and it was thought there was some disturbance of the system or febricula from cessation of the menses owing to having taken cold. Soon, however, diarrhœa and rose spots made their appearance, and it was pronounced to be a case of typhoid fever—She was ordered dilute hydrochloric acid in 10m doses every fourth hour. The diarrhœa was at first profuse, but was readily checked by a few doses of the acetate of lead and opium pill.

The present report of the case was not begun until the 3d January, 1866.

3*d. Jan.* Expression dull and heavy; dark purple, congestion about the malar prominences. Intellect very torpid; answers questions very slowly and reluctantly, but apparently correctly; somewhat delirious at night. Slight diarrhœa present. Pulse 115, compressible. Temperature in axilla 104° F. Rose-colored spots on the chest and abdomen numerous and very well marked, disappearing completely on pressure, and reappearing very quickly. Gurgling and tenderness in the right iliac fossa, tenderness also present over the whole front of the abdomen, but in a less degree. Abdomen slightly tympanitic. Tongue moist and covered with a rather thick and perfectly white fur with numerous enlarged red papillæ sticking up through it. Skin particularly harsh and dry. Passes urine regularly and in normal amount. Bronchial râles, mostly sonorous, but some sibilant, heard over the whole front of the chest, percussion resonant throughout. Scarcely any cough.

Diet. Milk, with 1 pint beef tea.

4*th. Jan.* Tenderness and gurgling persist; bowels moved only three times during the last 24 hours. Pulse 116, weaker and more compressible. Temperature 104.4° F. Tongue less moist and the fur becoming brown.

Ordered, wine, 2 oz; milk, 1 pint extra.

5*th. Jan.* Expression somewhat better, bowels only moved twice in the 24 hours. The spots previously noticed have disappeared, and a fresh crop have come out. Pulse 110. Temperature 104.4° F.

6*th. Jan.* Lying upon her side, and says feels a little better. Coughs a good deal, the sonorous and sibilant râles persist in the anterior aspect of both lungs, and posteriorly at the base of the left lung, the same are heard together with large mucous rhonchi. No dulness perceptible in any part. Pulse weak, 108. Temperature 105° F. Tongue dryish and brown.

Ordered, wine to be increased to 4 oz.
Turpentine stupes to chest.
and ℞. Spirit. ether. chlor.
Spirit. terebin.....āā ʒ ii.
Vitelli ovi..... i.
Aquæ..... ℥ vi.

Capt. cochl. magn. quartâ quâque horâ.

8*th. Jan.* Much the same. Tested the urine for albumen and found it quite absent. Pulse stronger, 110. Temperature 104.8°F. Tongue, dry in centre, moist at the edges. No diarrhœa.

9*th. Jan.* Coughs more, but the expression is better, and she seems more sensible. Still a dark flush on the cheeks. Moisture at the edges of the tongue rather extended. Pulse 112. Temperature 105.4°F.

10*th. Jan.* Better. Pulse 100, fuller and firmer. Temperature 104°. 2°F. Tongue, almost covered throughout with a yellowish, white moist fur, 12*th Jan.* Much better, much more sensible, though still there is slight delirium at night. Pulse 92. Temperature 103°F. Tongue quite clean and moist.

15*th. Jan.* No return of the diarrhœa, appetite good, the congested appearance of the cheeks remains. Still coughs a good deal, bronchitic râles remain as last reported. Pulse 100. Temperature 103.4°F.

17*th. Jan.* More cheerful—Answers questions now pretty readily. No diarrhœa, and tenderness completely gone. Sonorous and sibilant râles are still heard in the front of the chest at the end of deep inspiration, but not at all during ordinary quiet breathing, the mucous râles before mentioned have entirely disappeared from behind. Pulse 98. Temperature 102.2°F.

19*th. Jan.* Very much improved. Expression almost natural; mind much clearer, talks and laughs cheerfully, but is somewhat childish in ways and sayings. Cough much better. Pulse 96, Temperature 101°. Tongue quite clear and moist, and the appetite good.

Ordered, mutton chop.
and ℞. Quine disulph. gr. vi.
Acid. sulphur. dil m. xx.
Aquæ..... ʒ vi.

Capt. cochl. magn. ter in die.

From this time she continued to gain strength very rapidly. Sat up on the 23rd Jan., and was finally discharged quite well on the 28th Jan., 1866.

Date.	Day of the disease.	Pulse.	Temperature.
3rd Jan.	12th	115	104°F
4th "	13th	116	104°4
5th "	14th	110	104°4
6th "	15th	108	105°
7th "	16th	110	104°5
8th "	17th	110	104°8
9th "	18th	112	105°4
10th "	19th	100	104°2
11th "	20th	98	103°5
12th "	21st	92	103°
13th "	22th	96	103°2
15th "	24th	100	103°4
17th "	26th	98	102°
19th "	28th	98	102°
21st "	30th	92	100°

NOTE, The *temperatures* recorded were taken daily *at noon, in the axilla.*

CASE 4.

(Reported by Mr. A. C. Savage.)

Agnes English, act. 10, native of India; her father was a soldier in the British service, died at the age of forty. Mother still living, and enjoys good health. The patient is of robust habit, has never been sick (that is confined to bed) before the present illness.

On January 16th, 1866, she was seized with severe rigors, vomiting, headache, and a generally confused state of the senses, continuing for three days previous to her admission into hospital.

January 17th. Severe headache—being worse at night than during the day—loss of appetite, and intense thirst, tongue coated with a whitish or cream-coloured fur, pain on pressure on the right iliac fossæ, pulse 118, respiration 32, ratio 3.68, temperature 104½, ordered hospital hydrochloric acid fever mixture, milk diet and a pint of beef tea.

January 18th. Experiences a sensation of giddiness on sitting up, tongue still coated, slight pain in the stomach, aching pain in the back part of the head, pulse 106, (this is the 6th day) three lenticular rose-coloured spots are visible on the upper part of the chest, they disappear completely on pressure and return when pressure is removed, slight pain on pressure on the right iliac fossa, temperature 103⅘, ordered a drachm of *oleum ricini*.

January 19th. Took medicine last night, her bowels remained unmoved, tongue cleaner than at last visit, slight pain in the bowels, and tympanitis, pulse 112, temperature 102, about twenty typhoid spots, sparsely scattered over the surface of the back, face considerably flushed.

On January 20th. Ordered oleum ricini ℥j, bowels have not yet been moved, says she feels better, has slight headache, pulse 100, temperature 101⅓, additional spots visible on the anterior parts of the chest-the number also increased on the posterior region ; pupils much dilated.

January 21st. Looks much better, and says she feels well ; is anxious to sit up, had one evacuation of an ochrey yellow colour, and offensive ; feels no pain in the head or bowels, tongue cleaning off at the edges, slightly fissured in the centre, and papillæ somewhat enlarged ; pulse 94, temperature 98 ; no fresh spots visible, and those which were well developed are fading ; pupils remain dilated.

January 22nd. No important changes to note since last visit, had one natural evacuation this morning, she is very much improved, tongue cleaning off, and no fresh spots visible, pulse 86, temperature 98; wishes to be allowed to sit up.

January 23rd. Tongue clean, no pain, is convalescing rapidly, pulse 84, temperature 98, ordered full diet and clothes, and is permitted to sit up in the ward.

January 24th. Is restored to perfect health.

PERISCOPIC DEPARTMENT.

Surgery.

TREATMENT OF FRACTURE OF THE RADIUS AT THE STYLOID PROCESS BY MEANS OF GORDON'S SPLINT.

By Mr. Rawson Tait.

Few fractures have had so many painfully ingenious splints devised for their treatment as that common injury to the radius, which generally

goes by the name of Colles's fracture, if we except fracture of the patella with the awe-inspiring hooks of the late M. Malgaigne. The French pistol splint for twisting the hand to either side, the American splint for twisting the hand down, and some other kind of splint for twisting it up, have all been used, and nearly all given up as insufficient, besides being, for the most part, perfectly intolerable to the patient. Thus it is that we find Sir William Fergusson recommending the ordinary palmar and dorsal straight splints for the treatment of this fracture, and these, I believe, are used by most British practitioners with the addition of various supplementary pads as required by the exigencies of each case.

In spite of the utmost care most cases of this fracture turn out unsatisfactorily, and many are the actions of damages that have been raised on its account. The reason of this non-success is, I think, very plain; and let any one examine his own wrist, and the following explanation will be clear. Holding the hand straight out in a plane with the forearm, it will be seen that, while the dorsal aspect is almost a straight line, there is a considerable concavity at the wrist on the palmar aspect; indeed, that a line drawn from the elbow to the ball of the thumb would be, so to speak, the chord of a segment of a circle. Thus it is that when an arm, with the radius broken as it is in Colles's fracture, is pressed by two straight splints, one of either aspect, extending from the elbow to the fingers, the upper fragment must necessarily be pressed towards the palmar aspect of the limb; while the lower fragment, which is practically the same in this condition as the ball of the thumb, is pressed in the opposite direction—in fact, that the distortion is only increased by the splints as they press the fragments in the very direction in which they are already displaced. If this be correct, then it is easy to understand the success which has attended the use of Dr. Gordon's splint in the treatment of this fracture, and to believe that it is devised on sound anatomical and mechanical principles—that it really is what all splints ought to be, viz., a dermal skeleton.

This instrument was originally invented and described by Dr. Gordon, of Belfast; the only notice, however, which I am aware that it has subsequently received is in a paper by Mr. Stokes in the *Dublin Medical Journal*. It is composed of two pieces of wood, the one for the palmar aspect of the forearm being about nine inches long, two and a quarter inches wide at the elbow; the surface to be in contact with the skin is slightly hollowed out to fit the arm, and along its radial border it has screwed to it a wooden bar or pad, which is rounded off at the distal extremity to fit the concavity of the radius; this latter, of course, necessitates that, to fulfil this condition, separate splints are required for the right and left arms.

The pad, in addition to its being rounded off at the extremity, is rounded all along its inner surface so as to press accurately against the radius throughout nearly its whole length, and it is of sufficient height to embrace rather more than half the thickness of the forearm. The other portion of the apparatus consists of a plain piece of three-eighth inch board, two inches and a quarter broad, and two inches longer than its fellow; it is for application to the dorsal aspect of the forearm, and has the surface to be in contact with the skin slightly hollowed, and it likewise has its distal extremity transversely rounded. Its application is effected as follows:—The fracture having been reduced, the limb is retained in position by an assistant, the lower part of the apparatus is then applied, padded with spongio piline or lint, to the radial portion of the forearm alone, and not to the hand. Then the upper splint is to be applied, likewise padded, in such a manner that the proximal ends of the two parts of the apparatus are maintained at the same level, while the distal end of the upper one projects about two inches beyond the end of the radius. For a more particular description and a drawing, see *Dublin Medical Journal*, for February, 1865. The whole apparatus is firmly secured, by two small straps with buckles. In this manner no pressure is exerted on either of the fragments but what is calculated to keep them in their correct position. The arm, during the after progress of the case, is recommended to be kept in the position most agreeable to the patient, which will be found to be that of almost complete pronation. In the employment of this apparatus the wrist will be found to be confined only to a limited extent, while the movements of the fingers and carpo-metacarpal articulations are quite unimpeded; thus entirely doing away with the most objectionable condition of stiff joints, which is such an annoyance both to surgeon and patient for weeks after the common splints have been removed from the forearm.

Shortly before I became acquainted with this splint, I met with two cases of Colles's fracture, in which, in spite of the greatest care I could possibly bestow on them, there still resulted a considerable degree of the deformity peculiar to this particular injury. The first case occurred in an old lady, and the other in a young collier lad; in both the injury resulted from a fall on the palm of the hand. The unsatisfactory results of the ordinary methods of treatment of this fracture having been thus prominently brought under my notice, I was induced to pay special attention to what had been suggested by surgical authors as to the cause of the displacement and as to the best means of overcoming the resulting deformity. Much has been written on the action of those muscles which some have supposed to be the cause of this peculiar deformity; but I think

that this is one of the many instances where muscular action is blamed for ill effects of which it is blameless. The deformity seems to me to be caused solely by the direction of the violence which is the cause of the injury, this being almost invariably a fall on the palm of the hand. The mechanism of the fracture seems to be that when the patient falls on the hand, and that by its being forced outwards it drags with it the epiphysis of the radius, the ligaments breaking the bone rather than yielding themselves. Much the same, indeed, as in the very analogous fracture of the fibula at its lower fourth, where the internal lateral ligaments of the tarsus much more frequently drag away with them the tip of the malleolus externus than are ruptured themselves. Again, the idea that the displacement depends merely on the violence is borne out by the occasional occurrence of a case where the patient falls on the back of the hand, and when the ball of the thumb and lower fragment of the radius are driven upwards and towards the palmar aspect of the forearm. Bearing these things in mind, and looking at the great improbability of fragments so displaced returning spontaneously to their normal position, it seems to me that, in this instance at least, the theories which would attribute to particular muscles the power of drawing particular fragments this or that way, thus producing and maintaining the displacement, are quite needless. What is required in the treatment of this fracture, if we wish to obtain a perfect result, is not mere repose of the parts, which alone is secured by the ordinary straight splints, but such special adjustment of the normal curve of the shaft of the broken radius with its apophysis as will restore their normal relation to each other, and to the corresponding extremity of the ulna. This result, theory satisfied me was obtainable by the use of Dr. Gordon's apparatus, and the result in the following cases will, I think, satisfy any one of its utility and success.

Since reading Mr. Stokes's paper on this splint, I have met with two cases of the fracture, both of which were treated by means of it with remarkably pleasing results. The first occurred in the left arm of a boy, about eight years old, who fell from a height and lighted on the palms of his hands. In this case, the deformity was excessive, putting me in mind at the moment of that mysterious symbol connected with our early faith, known to antiquarians as the zig-zag sceptre ornament. He had his arm in the Gordon splint scarcely three weeks ; and now, from careful examination of both wrists, it could not be told in which arm the fracture had occurred. The other case occurred in a gentleman, aged 63, whose carriage was upset, and who likewise lighted on his palms. In this instance the deformity was well marked, but not nearly to so great a degree as in the former example. After their original adjustment, the

splints were not touched for six weeks, and there now exists not the least deformity. In fact, I had an opportunity of examining this gentleman's wrist within the last few days, and am quite as well satisfied with it as with the other.

Recently Dr. Heron Watson mentioned to me a case of this fracture which he had treated by Dr. Gordon's apparatus with the most satisfactory results. The patient was an adult male, and had met with the accident in the usual way. "The injured limb," writes Dr. Watson, "had been put up in the first instance in Gooch's splints by my House-Surgeon; but when I saw him next day, as he was uneasy, I took them off and applied Dr. Gordon's. They were adjusted two or three times while they were required, which was only four weeks. The original displacement was well marked, and the result was eminently satisfactory, the position of the ulna with reference to the carpus being natural, and the movements of the wrist quite unimpaired; while the rotation backwards and outwards of the styloid process and articular surface of the radius was, if present, imperceptible."

In none of the cases did the patients complain of the slightest pain or inconvenience arising from the apparatus.—*Medical Times and Gazette, February 17th*, 1866.

HYSTERICAL SPEECHLESSNESS—SPEECH RESTORED BY THE INTIMIDATING EFFECT OF GALVANISM.

Under the care of Dr. Pavy at Guy's Hospital.

The following particulars are from the report of Mr. Vaudrey:—

S. C., aged 17, having been occupied as a domestic servant at Tottenham, was admitted into Mary Ward, under the care of Dr. Pavy. Her history, which she gave in writing, is as follows:—About seven months ago, whilst out on an errand in the evening, a man laid hold of her arm and demanded money of her. He tore her jacket, but inflicted no personal injury upon her. She was so frightened that she could neither speak nor move for some time. She, however, at length reached home, although she does not remember how. On her arrival home she had a hysterical fit, which lasted for two hours and a-half, and from that time up to her admission—a period of nearly seven months—she has been perfectly speechless and partially deprived of the use of her lower extremities.

She is healthy in appearance. When spoken to she does not attempt to answer, but shakes or nods her head. The movements of her tongue and lips are free enough for other purposes besides speaking. She can

move her legs, but requires support in walking; neither leg, however, is dragged, as in paralysis. Apart from the speechlessness, her other faculties are right. She usually has a fit of a hysterical nature every night, about nine. Catamenia regular, and bodily functions in general healthy.

Dr. Pavy remarked that he believed this to be one of those strange vagaries brought about by hysteria. Here was a girl of healthy and lively appearance, and of good bodily condition, who had not uttered a single word for seven months. Doubtless she had excited the commiseration and sympathy of her friends, but one would have thought it must have been a great hardship to endure to forego speaking altogether for such a length of time. There was evidently nothing physically to interfere with her speaking. She was never to be caught unawares. When spoken to she made no attempt to answer by speech, but was ready to write down her reply. It was difficult to suppose that the girl was a voluntary agent in the part she was performing, or that she was practising a wilful deception. It was more rational to suppose that she was herself deceived—that she was so impressed with the conviction, so deluded with the belief that she could not speak, that she did not make the attempt. Some powerful impression would have to be made to dissipate the delusion. The galvanic shock had succeeded before in such cases, and Dr. Pavy would have it tried in this. An instrument in use by a paralytic patient in the ward was set to work, and the girl made to grasp the handles. The battery was not strong enough to yield a very powerful shock, and she did not utter any sound, although she cried and moved her mouth as though attempting to speak. She was told that a more powerful battery would be used another time if she did not find her voice, and that she was meanwhile to try all she could herself to speak. The next day she had a fit of hysteria, and afterwards uttered some sounds. She now began to speak, and in the course of a few days talked as freely as any patient in the ward. The use of her legs also became restored, and her hysterical attacks disappeared. The medicine administered was sp. ammon. fœt., mxx.; inf. valerianæ, ℥ j., ter die.—*Medical Times and Gazette.*

Medicine.

THE THERMOMETER IN DISEASE.

Much attention has of late years been paid to the temperature of the body in disease, and much practical information has been gained from this study. We therefore propose to lay before our readers an account of the help which we may get from the temperature of the body in the diagnosis, prognosis, and treatment of disease.

To Traube, Baerensprung, and Wunderlich on the Continent, and to Parkes and Sidney Ringer in England, we are chiefly indebted for the information we possess on this subject. By the use of the thermometer we are enabled to distinguish between diseases the symptoms of which are so similar that the most practised must wait for the disease to declare its true nature by its further development. Such cases constantly present themselves to the practitioner. They baffle his skill, compel him to postpone his treatment, and they may injure his reputation. In such cases the thermometer, by the evidence it gives of the temperature of the body, often affords us a certain means of diagnosis.

A patient is suddenly seized with a severe pain in the side. This is increased by breathing, coughing, or pressure on the chest. The expression is anxious, and the breathing is hurried and superficial. There may be slight cough. The pulse beats quickly and feebly. Sleep is prevented and the appetite becomes impaired. By a physical examination of the chest we find that the painful side expands imperfectly. The percussion note may be slightly dull, and the respiratory murmur is weak and jerking.

This group of symptoms is unfortunately too common. Have we here a case of pleurisy or pleurodynia? How are we to decide? The pain is of itself sufficient to explain all the symptoms and physical signs. This prevents the free play of the chest, and consequently the movements are hurried, jerking, and abrupt. It quickens and enfeebles the pulse; it prevents sleep. The pain and want of sleep impair the appetite. On account of the impairment of the movement of the chest walls, the respiratory murmur is weak on the affected side.

In such a case the presence or absence of cough and the state of the pulse may afford much information. But this evidence cannot be implicitly relied on. With pleurisy there is always some cough, and, owing o the fever which accompanies the disease, the pulse is quickened. Neither of these symptoms usually occur in pleurodynia; but cough due to some bronchitis may be present in pleurodynia, and pain, or fear, or the excitement caused by the visit of the Medical attendant may cause the pulse to beat quickly. Pleural friction often cannot be detected by auscultation. But pain is common to both pleurisy and pleurodynia. This pain, as we have seen, may produce all the symptoms and physical signs that are often present in either disease. The diagnosis, therefore, at the outset of the attack becomes in some instances impossible, and must be postponed till well-marked physical signs are developed.

Fortunately, by means of the information that we gain by the thermometer in very many cases we can at once decide the true nature of the

disease in question. Pleurisy is an inflammatory disease; pleurodynia is not so. *In all acute inflammatory diseases the temperature of the body is raised.* Hence in all cases of pleurisy the temperature is considerably raised at the very commencement of the attack. In pleurodynia the temperature remains normal. The temperature of the body in health varies from 97° to 99·6° Fah. In pleurisy it rises to 101°, or even to 105° Fah.

On the other hand, with such an elevation of the temperature as that just mentioned, occurring with the symptoms detailed above, we are justified in diagnosing pleurisy. It is true that this elevation may be caused by some co-existing disease. This, however, is a rare coincidence, and such co-existing disease can be mostly detected; therefore, in the absence of such co-existing disease, our diagnosis must be pleurisy, and the event will justify such a conclusion. Should it be urged that the hand can detect this elevation, and that thus the use of the thermometer is uncalled for, it may be answered that, firstly, if the hand alone be employed, much error is liable to be incurred; for a dry skin of natural temperature may feel preternaturally hot, while, on the other hand, a hot but moist skin may feel to be considerably cooler than the temperature indicated by the thermometer.

As a means of estimating the amount of preternatural heat, the hand is all but useless. But it is important to obtain an exact estimate of the elevation of the temperature; for by careful observations it has been shown that *the degree of elevation is proportionate to the severity of the disease that causes it.* Hence the amount of preternatural elevation of the temperature forms one of the most important factors on which the prognosis is made. This exact information the thermometer alone can give us. Nor are the other symptoms, individually or collectively, at all to be compared to the temperature in this respect; *for in every case of fever, no matter from what it originates, the temperature is elevated, and this elevation of the temperature is the only constant symptom of fever.* It alone is pathognomonic of fever. Thus fever and preternatural heat of the body are used as synonymous terms; for the pulse may beat with the frequency of health, the tongue may be clean, and even the appetite good, and thirst may be absent; but there is always preternatural heat of the body if fever exists. Thus cases are recorded (and such frequently occur to those who use the thermometer) where from the presence of various symptoms grave disease was apprehended, while an appeal to the thermometer negatived this assumption; or from the apparent mildness of the symptoms an unimportant complaint has been suspected, when the thermometer has indicated some grave affection. In all these cases the

predictions made by the assistance of the thermometer have proved correct. The following cases illustrate these remarks:—

A girl, aged 18, was admitted into Hospital. She was extremely weak, so that she had to be assisted into the ward. She had been ill eight days. During this time she had suffered from severe frontal headache and some diarrhœa. The motions were liquid. The tongue was thickly coated. The attack had commenced insidiously. There were no typhoid spots, and her abdomen was not distended. Her sister was at that time in the Hospital under treatment for typhoid fever. These circumstances were sufficient to render it highly probable that she suffered from typhoid fever. Her temperature, however, was normal, and thus our diagnosis was corrected. In two days she had so far recovered as to be able to dress and walk about the ward, and in a few days more she left the Hospital.

A girl, 22 years of age, was admitted into Hospital a month after her confinement. She felt slightly indisposed. Her appetite was good and her tongue clean. She assisted in the work of the ward. On careful examination very slight tenderness of one breast was discovered. Of this, however, she had not previously complained. Her temperature varied between 101° and 102° Fah. In a few days the breast became much enlarged, hard, red and tender, and subsequently an abscess of considerable size formed.

While advocating, however, the use of the thermometer, we by no means wish to lead our readers to the conclusion that the information it gives us enables us to disregard the remaining symptoms; for it is from these latter that the diagnosis must be mostly made. It is from these that the greatest information in respect of the treatment is obtained. Much care is necessary in the use of the thermometer. It is, therefore, advisable that we should make a few remarks respecting the method of its application.

The temperature of the body should be taken by a thermometer placed in the axilla. The patient should be in bed and undressed; otherwise the temperature of the surface of the body may be considerably below that of the internal parts. A difference of 2°, or even 3°, Fah. can easily result from the non-observance of this precaution. The patient should be in bed an hour before the temperature is taken, as this time is often regulated before the surface of the body recovers from the effects of the previous exposure. The patient should be placed diagonally on the right or left side; for if placed on their back patients are apt in their anxiety to retain the thermometer in the axilla to press the arm too firmly against the side. The axilla is thus converted into a cavity in which the bulb

of the thermometer moves about loosely without coming thoroughly in contact with the tissues. This is specially apt to occur in emaciated people. On the other hand, if placed quite on the right or left side, the distal end of the thermometer becomes depressed, thus rendering the reading of it difficult—nay, sometimes the column of mercury divides when part gravitates down the tube, giving a fictitious result. If, on the other hand, the patient be placed neither completely on the back nor side, but in a medium position, these objections are obviated; for the parts then fall naturally together, no muscular effort being required to retain the thermometer. Care should be taken that the patient has been previously covered up, and that the axilla has not been exposed; otherwise a difference of 2° or 3° Fah. may result. It is, therefore, better, if the patient has been lying on one side, to turn him diagonally on the other, and to use the axilla which was previously most dependent. Care should be taken that the thermometer be in complete contact with the skin, and that no clothes are in the way to separate it from the surface of the body. All these precautions being observed, it is better to allow the thermometer to remain in the axilla at least five minutes. The temperature should be taken twice in the day—at 8 a.m. and 8 p.m. If only one observation can be made in the day, the evening must be chosen, for often the temperature is normal in the morning, but very considerably elevated at night.

It is better to use a thermometer constructed for the purpose. Those of the ordinary make are often untrue, and are always difficult of application. Trustworthy and suitable thermometers can be obtained of Mr. Casella, of Hatton-garden.

Midwifery and Diseases of Women and Children.

REMARKABLE CASE OF "MISSED LABOUR":

Retention of a Fœtus in the Abdomen Forty-three Years.

By R. W. Watkins, F.R.C.S., Towcester.

On January 10th, 1866, I visited, by request, Elizabeth Jones, aged seventy-four, widow of William Jones, a small village shopkeeper at Stoke Bruerne, Northamptonshire. She gave me the following history, which I will narrate as nearly as possible in her own words.

About forty years ago, she was in labour with her second child. Her first, born two years previously, having had water in the head, had survived its birth only a few years. The labour being very lingering, they had sent for my late father, who had attended her, and remained with her

the night. On the following day, being very busy, and the labour having made no progress, he left her in charge of the midwife who was in attendance upon her. The pains were lingering, but not very severe. On the third day, she felt something "drop down suddenly inside her; and the child, the movements of which she had constantly felt up to that time, at once became cold as a stone." She was in great pain, and my father had attended her for a considerable period. She refused to allow any surgeon or physician to attend her, or to have any operation performed. She gradually improved in health, although she was very weak for a long time, and did not decrease in size for several years.

Upon examination, I found her much emaciated, with a hard bony tumour in the lower part of the abdomen, exactly resembling the fœtal head. It could be easily moved from side to side; and, on careful manipulation, I believed that I felt the back part of the thorax in close approximation to it. She was evidently sinking from chronic renal disease; and, knowing that her end was approaching, had sent for me to request that I would make a *post mortem* examination. She had previously made a similar request to Mr. William Knott.

The story was corroborated by some of her neighbours, and by the rector of the parish, who had heard from my father a full report of the case. It was also stated, that at different times three little bones, "like finger-bones," had come away from her; but they had not been preserved.

On referring to old ledgers, I found the entry of the attendance on October 8th, 1822, in the handwriting of my grandfather, with the subsequent payment of the fee marked in my father's handwriting, and with his initials.

The woman died on January 13th, and the examination was made on the 15th by Mr. William Knott, in the presence of Mr. Knott, sen., Mr. Garlike, and myself. On making an incision through the abdominal parietes and opening the peritoneum, we immediately observed a hard white substance, which proved to be the vertex or fœtal skull; and on enlarging the opening, a perfect fœtus was extracted without difficulty. It was covered with plastic lymph; the limbs were flexed anteriorly on the body, and the head bent forwards to meet them, in the manner usually depicted in plates of the gravid uterus. It was attached by the umbilical cord to a vascular tumour of about the size of half an orange, which appeared to be the atrophied placenta, and which was connected by ligamentous attachment to the peritoneal covering of the broad ligament near the left ovary. One portion of this vascular tumour appeared to be a mass of unorganised lymph containing fluid. Neither

the fœtus nor the supposed placenta had any adhesions to to the peritoneum, except the ligamentous attachment I have already mentioned. The uterus was perfectly normal. There was no cicatrix or other marks of injury on any portion of its surface. The ovaries were pale, but quite natural in size and form. There were no adhesions of the peritoneum in any portion of the abdominal cavity, and no appearance of previous inflammatory action in any part of the large or small intestines. The kidneys were extensively gorged with venous blood, and very friable; the left being more affected than the right. The spleen also was much congested and friable. The stomach and liver were healthy. The gall-bladder contained about twenty hard dark gall-stones. The pancreas was very much diminished in size. In front of the aorta, and immediately above the inferior mesenteric artery, to which it was connected by condensed cellular tissue, was a white encysted tumour, of about the size of a hen's egg, containing a milky fluid.

The above extraordinary case is, so far as I am aware, quite unique, and will be interesting, not only as an instance of recovery from tubular gestation and probably rupture, but also from the comparatively slight local and constitutional effects of a foreign body retained in the cavity of the peritoneum for more than forty-three years. The specimens have been forwarded to Dr. Barnes, for exhibition at the meeting of the Obstetrical Society.—*British Medical Journal.*

CYCLE OF DISEASE.

Doctors have been writing a good deal lately about "change of type in disease." Some of them, indeed, adopting a recent "heresy," have said there is no such thing, the change being solely in their modes of treatment, not at all in the constitution of their patients. Dr. F. J. Brown, of Dorchester, however, brings forward a startling fact. Formerly, he says, the peasants round him used to be bled once or twice a year, losing 16 ounces, and walking home many miles without inconvenience. Of late years the same men and their sons have fainted from the loss of from four to eight ounces, and so the practice has been dropped. Dr. Brown, who seems to have been a very careful observer, thinks that change of type, like so many other things, is periodic. Since the spring of 1864, he says, the plethoric type is gaining upon the nervous; "men can lose blood with benefit now who could not do so a few years since." The nervous type, he asserts, came in with the first cholera epidemic, and has lasted about the third of a century. This is encouraging. If the nervous type goes, we may hope that cholera will go along with it. But the whole question of cycles of disease can scarcely yet be handled scientifically.—*Pall-Mall Gazette.*

Canada Medical Journal.

MONTREAL, APRIL, 1866.

There are certain forms of disease which are well known to be the result of a specific poison entering the blood. Of these, we may mention the various forms of fever; in fact, that class of disease known as of zymotic origin. Among this class is to be mentioned cholera, the question of the contagious and non-contagious nature of which is attracting considerable attention at the present day throughout the scientific world.

This question has divided the profession into two schools—those who assert that disease of the zymotic class is produced by special poisons independent of condition, and capable of being generated and reproduced from one individual to another. Another class of sanitary reformers there are who regard zymotic disease as being caused alone by neglect of certain sanitary laws, and from emanations from decomposing animal or vegetable refuse. Much injury is done by extreme views of either party, while the advocates of measures calculated to embarrass trade such as rigid quarantine regulations on the one hand, and those who regard disease as occasioned alone by neglect of common cleanliness on the other, are each clamouring for the adoption of their specific views. It would be well to consider the advisability of adopting, as a whole, common sense views of the obligations imposed on each individual for his own safety, and that of the whole community. That cholera is contagious in the same nature as is small-pox, typhus fever, or other zymotic diseases of this class, we do not believe; it is a question, however, which is far from being settled definitely. There is much to be said in favour of contagion, and much against it. There are certain conditions which, of necessity, must exist prior to the development of any contagious disease: firstly, we must have the poison capable of developing the disease; secondly, a medium of communicating the poison; and, thirdly, an individual predisposed to receive it. That cholera is produced by a specific poison seems to be the generally received opinion; that the

poison of cholera is developed or propagated by defective drainage and uncleanliness of localities, appears to be unquestionable; and that individuals are rendered more liable to its attack by neglect of personal sanitary measures of whatever kind, be it of personal cleanliness, scanty or unwholesome food, intemperance or loose living, is to our mind conclusive. With regard to the medium of communicating the cholera poison, this is a question which is far from being satisfactorily settled. One theory is that water is the medium of communication, hence the theorists assert that the disease invariably follows the course of navigation; but unfortunately for them, it generally goes up stream. Cholera in 1832 appeared in Quebec early in the month of June, and almost simultaneously—we believe it was a few hours after—it broke out in the Barracks in Montreal. No personal communication had occurred between the two cities. In 1834 it appeared in Quebec, Montreal, and Toronto on the same day; and on the Upper Ottawa a case is mentioned of a party of raftsmen bringing their timber to market, who had not held communication with any civilized community for months, but who were attacked with a violent purging and vomiting, and three of their number died in a few hours. This last circumstance we have heard from several men connected with the lumber trade, and can be authenticated.. A somewhat similar case is on record. In November, 1848, two vessels left the port of Havre bound for America, one the Swanton, on the passage to New Orleans; the other, the ship New York, bound for the port of that name. While in mid-ocean the cholera broke out on board of each vessel, and proved fatal in from twenty to thirty individuals in each ship. The port of Havre at the time the vessels left, was entirely free from the disease, nor had any of the crew or passengers been in the vicinity of the disease before embarkation. These circumstances would almost point to the atmosphere being the medium of communication of the cholera poison; certain local conditions, as low marshy or ill-drained land being favourable to the development of the disease.

General sanitary precautions should be adopted by communities, and the cleaning of streets is a necessity which should be rigidly enforced. All house refuse should be removed without delay; vegetable or animal matter should not be allowed to remain in heaps until a sufficient quantity accumulates to form a load, but should be removed each morning. A proper system of scavenger carts ought to be introduced. All marshy lots—and there are many in the lower parts of this city—should be efficiently drained, as there can be no doubt that the moist atmosphere, which is found near such situations, is highly favourable if not to the development, at least to the propagation of cholera. These are a few suggestions, which we trust will

be acted on in time to be of service to the community. There are other duties more of a personal character which deserve mention. House cleanliness, frequent ventilation, and the free use of lime ought to be insisted on: the police should have the power under instruction of the Health Officer of enforcing sanitary measures under penalty.

But while we are attending to the condition of our houses and thoroughfares, let us not omit personal sanitary precautions.

Intemperance both in eating and drinking should be avoided at all times, but more especially during the existence of epidemic disease. The daily use of spirituous liquors is unnecessary if not positively injurious, and especially so with the thermometer ranging between 90 and 100 degrees in the shade. We advise no sudden change in the habits of life, but would especially enjoin temperance and abstemiousness in all things.

The diet should be plain, nutritious and easily digestible—unripe vegetables and fruit should be avoided; in a word, let each individual live—as far as his diet is concerned—in that manner which he has found most conducive to his health.

Severe mental or bodily fatigue is highly injurious, inasmuch as considerable waste of nervous power is the consequence, and hence the system is rendered more liable to an attack of any prevailing malady. The necessity of personal cleanliness cannot be too urgently recommended. The clothing should be comfortable, seasonable; let each individual watch the changes which occasionally occur with such rapidity, and if need be change his clothes to suit the temperature. Nothing can be more injurious than the sudden arrest of free action of the surface, by exposure, without sufficient or adequate clothing during the sudden vicissitudes of our ever changeable climate. Such are the measures we would recommend for general adoption. The object being to preserve the body in a state of as perfect health as possible, avoiding excesses of all kinds and abstaining from anything likely to derange or impair the digestive functions.

Our readers will receive with this number of the journal a circular from Dr. Hingston, to which answers are requested. The same circular has been sent to the French Canadian Physicians through the *Gazette Medicale*, and in these ways a fair expression of the views entertained by the profession generally, is expected. We are in a position to state that should the answers indicate a more than usual acquaintance with the subjects contained in the questions, Dr. Hingston will give them expression, and the writers due credit. As the questions are of interest to the profession generally, we hope the circular will receive immediate attention.

CANADA

MEDICAL JOURNAL.

ORIGINAL COMMUNICATIONS.

Valedictory Address to the Graduates in Medicine, McGill College. Delivered on behalf of the Medical Faculty, at the Annual Convocation, held in the William Molson Hall of the University, on the 3rd May, 1866. By WILLIAM FRASER, M.D., Professor of Institutes of Medicine.

GENTLEMEN,—This day's ceremony forms the climax of your professional studies—admits you to all the privileges and responsibilities of the profession of your choice. It consequently severs the connection which has existed between us as teachers and pupils. On such an occasion it is customary to offer the graduating class a few valedictory words by way of advice. That duty has on this occasion devolved upon me, and for your sakes, I wish it had fallen upon an abler man.

I will however endeavour briefly to point out, in the first place, what you may reasonably expect as the reward of your past labour on entering into practice; and in the second place, the mode in which you are most likely to attain that object.

Few members of our profession realize the princely fortunes so often acquired by those engaged in successful commercial pursuits—and seldom have they conferred upon them those honours that are so frequently bestowed upon eminent lawyers and warriors. On the other hand fewer members of our profession fail to make a fair and reasonable competency, than in either of the professions mentioned. A still greater reward is the usefulness of your services—the high satisfaction derived from the consciousness of being of use—of being able to do a service much in demand—the well doing of which involves great benefits, and averts great evils. There are few offices more appreciated by mankind than those discharged by the medical practitioner. The rewards which you

may therefore reasonably expect from the studies you have gone through and the labours of your prospective practice, are, a fair competency, the satisfaction derived from a sense of the utility of your services, the gratitude of your patients and the respect of the public.

To attain these objects, there are certain fundamental rules of conduct necessary for your self regulation, and due to the public and to the profession.

As regards the first of these—your conduct should be such as is calculated to preserve your own health and command the respect of your fellow men. You whose vocation it is to direct others in the preservation of their health and in the correction of their bodily derangements, are expected to know how to maintain your own. Familiar as you are with those hygienic laws by the observance of which health and life are maintained, nevertheless, I think it right to warn you as young practitioners against the ruinous habit which too many members of our profession acquire, of indulging in alcoholic beverages which is alike injurious to their health and professional prospects. The man who is afflicted with this infirmity can never be relied upon as a medical practitioner, and his best friends will soon cease to employ him, without his being apparently aware of the cause—often attributing their alienation to other reasons. To no class of men is bodily vigour and mental soundness more necessary than to those of our profession—subject as they are to be called upon at all hours for professional assistance in cases the most intricate and dangerous. Therefore shun the cup that inebriates—that blears the eye and palsies the hand—destroys the intellectual and perverts the moral faculties.

Another point is this. To no class of men is integrity of conduct, truthfulness, dignity and suavity of manner more necessary. A great authority and a good man, Dr. Stokes of Dublin, has lately said in his address on medicine, delivered at the annual meeting of the British Medical Association, held at Leamington, in August last, "That the cause of medicine taken in its broadest sense,—whether as to its social, political, or scientific relations, is to be advanced more by the cultivation of the minds, the morals and the manners of those who are engaged in it, than by all other influences whatsoever." Entirely coinciding with the idea embodied in these great and good words, I commend them to your consideration and practical adoption as a sure way of advancing the profession at large and your individual success.

Before entering on the active duties of the profession, those of you who can afford to do so, should follow the example of the father of medicine, who, after studying at the Asclepion of Cos, travelled into other

countries. In like manner you should visit Europe, to see the practice of its large medical institutions and hear the teaching of those renowned men of Britain, France, and Germany, who have so largely contributed towards the present condition of our profession. It is needless to point out the advantages of such a course, as they are universally acknowledged.

Another duty you owe to yourselves is to keep pace with the rapid progress which rational medicine is making in our time. The man who neglects this will soon find himself outstripped by his cotemporaries and deservedly so. By means of periodicals and new publications, you should keep yourselves well informed of all that is going on in the medical world. For although you have ceased to be pupils you must still continue to be students—indeed your whole life must be one of study, observation and reflection.

There is another rule of conduct to which I desire to refer. Every medical man has often his patience sorely tried by being obliged to listen to long, tedious, and irrelevant histories of the maladies of valetudinarians and of persons labouring under diseases acutely painful or hopelessly incurable. With all such be gentle and forbearing. Remember the intimate relation existing between the physical and mental, and that derangements and diseases of the former often seriously affect the latter. Harsh and overbearing conduct towards invalids is not suitable to the present state of society. It never did any good and therefore serves no end either as regards the patient or physician.

For success in practice depend upon your own merits and the closest attention to business. Whatever your struggles may be, eschew all questionable or charlatanical devices for improving your circumstances by departing from the path of rectitude.

Towards the public your duties are of a special and general character. Prominent among the former is prompt attention to calls for your professional services, and when you have taken a case in hand do your utmost to save life and relieve suffering. In dangerous cases, when you have any doubt as to the correctness of the practice to be followed, hesitate not to call in the assistance of an older and more experienced practitioner.

To the poor be generous of your professional services and kindly in your manner. Although you receive no renumeration from them, your experience will be enlarged and your prospects in many ways advanced by such disinterested and humane conduct.

Let me also remind you of your obligation to be discreetly reticent in all matters coming to your knowledge as professional men.

As respects the public duties which a medical man of the present day is expected to perform, I may particularize disseminating amongst the community amidst whom he practices, a knowledge of those sanitary laws, which have been shown capable, when rightly understood and rigidly enforced, not only of preventing disease, but also of diminishing in severity that which is inevitable. In all climates and under all conditions of life, the purity of the atmosphere habitually respired, a good water supply and drainage are essential to the maintenance of that power of resisting disease, named by Cullen the *vis medicatrix naturæ*. It frequently happens that individuals continue for years to breathe a most unwholesome atmosphere, without apparently suffering from it, and when they at last succumb to some epidemic disease, their death is attributed solely to the latter—the previous preparation of their bodies for the reception and development of zymotic poison being altogether overlooked. That the fatality of epidemics is almost invariably in precise proportion to the degree in which an impure atmosphere has been habitually respired or impure water drank can be proved by the clearest evidence.

That an atmosphere loaded with putrescent miasmata favours the spread of zymotic poison by inducing an abnormal condition of the blood is beyond all question—nay farther, I am disposed to believe there is ample evidence to show, that in the crowded dwellings of the poor, diseases do in this way originate *de novo*. On the other hand, by proper attention to ventilation, water supply, and drainage, the fatality of Epidemics that formerly terrified the nations may be almost completely annihilated and the rate of mortality in disease in general largely decreased. It cannot be too strongly borne in mind, that the efficacy of such preventive measures has been most fully substantiated in regard to many of the very diseases in which the curvative power of medical treatment has seemed most doubtful—as for example cholera and malignant fevers.

The practical importance of this subject is strikingly illustrated by the following startling facts, brought to light by enquiries prosecuted under the direction of the London Board of Health, viz.: That the difference in the annual rates of mortality between the most healthy and the most unhealthy localities in England, amounting to no less than 34 in 1000, is almost entirely due to zymotic diseases, which might be nearly exterminated by well directed sanitary arrangements. The inevitable mortality, arising from diseases which would not be directly affected by sanitary improvements is 11 per 1000 in those districts which are free from zymotic disease. And the average mortality of all England

in ordinary years, is about 22 per 1000, or just double that to which it might be reduced, so that taking the population of England and Wales (as by the last census) at 20 millions, the average annual mortality must be 440,000, of which 220,000 is inevitable, an equal amount being preventible.

These facts show in the clearest manner the great importance of sanitary reform. In view of the epidemic which has already appeared in some parts of this continent, and which is almost certain to visit this country during the present season. A sense of public duty and a desire to benefit your fellow men, should induce you to take a deep interest in this subject hitherto so imperfectly understood by the majority of the people. By acting thus as preventers of disease you will convince the public of the purity of your motives and the sincerity of your efforts for its welfare.

In order that the profession may advance in all its departments—Sanitary, Medical and Surgical, it is the duty of each of you to record his experience and thus contribute according to your opportunities to its progress. By such work a large experience is made available to the profession at large and the writer is taught accuracy of observation and profoundness of reflection.

With your fellow practitioners cultivate friendly relations, and reciprocate kindly offices. Attempt not to raise yourselves by a brother's fall—nor by wily and unscrupulous insinuations to undermine his reputation and dispossess him of his patient. No man ever raised himself to eminence by such unworthy conduct. Medical etiquette is founded on the same principles, which characterise the conduct of every educated, courteous and honorable gentleman. It has for its basis to do unto others as you would that others should do unto you. And now gentlemen go forth on your mission—your time has come—perform your work faithfully and diligently and you will be sure to reap the reward. For your success and prosperity you have the best wishes of your late teachers, the members of the medical faculty of this university.

Cholera in Canada in 1832 *and* 1834. By JOSEPH WORKMAN, M.D., Medical Superintendent Provincial Lunatic Asylum, Toronto, C.W.

In the April number of the *Medical Journal*, page 479, the following statements are found:

"Cholera in 1832 appeared in Quebec early in the month of June, and almost simultaneously—we believe it was a few hours after—it broke out in the Barracks in Montreal. No personal communication had

occurred between the two cities. In 1834 it appeared in Quebec, Montreal, and Toronto on the same day." As the above statements are most inaccurate, I must beg permission to correct them: and as I was an eye-witness of the two epidemics of 1832 and 1834, and at the time made notes of their progress, the accuracy of which I am certain is beyond question, I trust the readers of the Journal will believe that my only object is the correction of an historical error.

I adopted "*Asiatic Cholera*," as the subject of my "*Inaugural Dissertation*," for the degree of Doctor of Medicine and Surgery, from the *University of McGill College*, in May, 1835; and as the prescribed number of printed copies was presented by me to the Registrar of the University, no doubt my thesis is to be found in the University Library. As I cannot more succinctly present the details than by a literal quotation from this pamphlet, I proceed to transcribe them, from the foot of 8th page onward—viz.

"Towards the South" (from Russia) "we follow cholera into Berlin in August (1831), and into Vienna in September. In October it shewed itself in Hamburg; and while all England was in a state of trepidation and wasting useful time in discussing measures to prevent its entrance, the disease unexpectedly shewed itself in Sunderland. From this place it spread in various directions, and before the close of the winter, it had shown itself in all the principal towns of Great Britain.

In the spring of 1832 it was prevalent in Dublin. In the beginning of April a vessel named the "*Carricks*" sailed from Dublin, with 167 emigrants. Ten days after sailing, one death took place, and during the succeeding fifteen days, thirty-nine more were added to this one. From this time up to the arrival of the vessel at *Grosse Isle*, the quarantine station below Quebec, only five deaths more occurred. The captain reported to the boarding officer "forty-four deaths, by some *unknown* disease." Whatever, at that time, may have been the general opinion, as to the real nature of this "*unknown disease*," no one now thinks of questioning its identity with Asiatic cholera. We have had, since that time, but too many instances, perfectly similar to this, of the appearance of cholera amongst emigrants on board of vessels bound to Quebec; and the awful havoc committed by it, in several of them, has been such as to excite the sympathy of the most heartless. The *Carricks* arrived at Grosse Isle on the 3rd of June, and while the vessel was lying there, a female passenger died, after three hours' illness. On the 7th of June a sailor died of cholera in a boarding house in Quebec, and on that evening the steamboat *Voyageur*—left Quebec for Montreal; but in consequence of being *overloaded* with emigrants, the captain was obliged

to put back and to disembark a number of them. Several of the disembarked emigrants were very soon after seized with cholera. The boat proceeded on her way to Montreal, but before arriving at Three Rivers, an emigrant named Kerr, was taken ill, and died before the vessel came into the port of Montreal. Another emigrant named McKee had been seized on the afternoon of the same day (June 9th); he was carried from the boat into a tavern near the wharf.

The dead body of Kerr was exposed to the public gaze during the next day, Sunday 10th, and was visited by great numbers, from mere curiosity. Many persons also went into the tavern to see McKee,—among others a soldier—from the Barracks, in which place cholera appeared that night, and this soldier was amongst its first victims."

Note.—It was stiffly affirmed at the time that neither this soldier, nor any other soldier of the 15th regiment, then in Montreal, had any connexion with the cholera cases at the wharf. After very careful investigation, I discovered the inaccuracy of this assertion; and many years after, Dr. Dewson, now resident at Windsor, and then a student under Dr. Barclay, surgeon of the 15th, assured me that the first soldier who died of cholera in the Montreal barracks, visited the emigrant McKee in the tavern, and assisted in rubbing his body. Truth is sometimes very hard to be reached.

" On the night of Sunday, several cases occurred in various parts of the town. In several of them, communication with the first cases could be traced, but in others no direct connexion could be discovered. On the 11th several other cases occurred, and a continued increase of cases took place until the 19th, when the malady had attained its acme. From Montreal we can trace the disease along the grand travelling routes to the West and South. It appeared at Lachine on the 11th, amongst emigrants on their way to Upper Canada; on the 13th it had arrived at the Cascades—the first case was a person newly arrived from Montreal."

[*Note.*—This person died at the Coteau du Lac. He was a clergyman, and the father of the wife of one of our present Superior Judges in Western Canada.]

" On the same day, a boatman, direct from Montreal, died of cholera at Cornwall. On the 16th it was at Prescott; the first cases were amongst persons just arrived from Montreal. On the 18th, a boatman from Montreal died of cholera at Brockville. On the 20th it was brought into Kingston. On the 21st the first decided cases occurred at York, now Toronto."

[*Note.*—One of the first, if not the *very* first of the cases in York, was that of Mr. Filgiano, a merchant tailor of Montreal, who left Montreal in order to escape the disease.]

"On the 22nd, a vessel from Kingston, called the "*Massassauga Chief*," loaded with emigrants, arrived in the river, at Niagara; but on account of their being several cases of cholera on board, the vessel was not allowed to come into port. Cholera did not at that time shew itself in Niagara.

Having thus followed the disease sufficiently far to the West, we may next trace it from Montreal towards the South. On account of the obstacles offered to emigrants on the American frontiers, the progress of the disease, in this direction, was neither so regular nor so rapid as we have seen it in passing up the St. Lawrence, in which direction it possessed every facility for its transmission. We find it in Laprairie on the 12th of June, and in St. Johns about the 14th. In several places on the frontiers straggling cases occurred; but, whether from the difficulty of telling truth, or that of ascertaining it, the accounts given by the various papers of its appearance along the grand southern thoroughfare, were of so confused and contradictory a nature, that it is absolutely impossible to follow the disease in this course with any degree of satisfaction. We find it reported in New York, July 4th; but some cases are said to have been observed previous to this date. The first case in Philadelphia, is stated by some to have occurred on the 5th of July; but as a second case did not occur until the 14th, we have strong grounds for rejecting the reality of that on 5th. * * *

"In Montreal it continued to rage with terrific violence till the end of June. In the beginning of July it remitted its violence."

"But before the middle of the month it assumed renewed vigour. Hitherto its victims had principally been from amongst the poor; but its devastations now extended beyond the habitations of the indigent."

"The total number of deaths in Montreal, from the breaking out to the termination of the disease, was upwards of 3000." (The population was then but little over 30,000.)

[*Note.*—One of the worst days the number of interments was 168. In walking down from the mountain between the street leading into the St. Antoine suburbs, from the *Cleghorn* or *Burnside* farm, and the hay-market, I met seven funerals, each of which did not number more than two or three attendants.]

Cholera of 1834.

"During the months of June and July, 1834, some vessels that had cholera amongst the passengers during the passage, arrived at Grosse isle. On the 11th of June a case occurred at this station. The official reports did not mention this fact. On the 6th of July,

several cases occurred at Quebec. On the 11th, two emigrants, ill of cholera, were carried from the steamboat at Montreal to the cholera shed. On the 12th several cases occurred amongst the residents, and on each succeeding day there was a gradual increase. In about three weeks the disease was at the worst; the deaths being about seventy *per diem.* The total number of deaths was about 1,200. In its progress this year from Montreal, the disease deviated little from the laws which it observed in 1832, except that its close adherence to emigrants proved still more incontestably the agency by which it is transmitted from country to country.

The preceding observations were written by me thirty-one years ago from notes taken down during the transpirance of the calamitous occurrences detailed, and while yet all was fresh in my remembrance. My thesis was submitted to the scrutiny of the medical faculty of McGill College, and the lamented and highly gifted Professor Robertson bestowed very close attention on its contents. Neither he nor any other member of the faculty controverted its historical statements, and they were cognizant of all the facts. Very few of the present medical practitioners of Montreal were then on the stage of professional life. Dr. Hall, Dr. David, and several others were, I think, fellow-students in 1832. Dr. Sutherland had hardly commenced his studies. Dr. Campbell arrived from Scotland, I believe, shortly before.

I am certain that the events strictly accorded with my statements of them.

Toronto, 7th May, 1866.

Case of supposed Poisoning by "Coptis Infolia." By W. J. ANDERSON, L.R.C.S.E., Quebec.

ON Wednesday morning, 2nd May, I was hurriedly called on the street, to visit a child in St. Lewis Suburb. On approaching the house, the father informed me that he was afraid we would find the child dead, as it appeared to be dying when he left home for a doctor. I asked if he could assign any cause, when he replied that a sick nurse who resided in the neighbourhood and who had been summoned on the emergency, thought it might have arisen from an *overdose* of the decoction of "Gold Thread," which had been administered half-an-hour previously, for worms.

On arrival at the house we found the child alive, but completely insensible, almost pulseless; breathing barely perceptible, but not stertorous; and the surface of the body cold, but no lividity of the countenance. The mother produced the remnant of the decoction, which had been made with

whiskey—it was intensely bitter. She assured me that she had not given more than a third of a wine glass, or about two dessertspoonfuls, and that within half-an-hour the child had become insensible. She further stated that on the previous morning she had administered about two-thirds of the quantity, without producing any sensible effect. I should also mention that Mrs. Eunght, the nurse, told me that she had immediately, on her arrival, applied vinegar and water to the head, and had poured a tea spoonful of olive oil down the throat.

I at once applied brandy to the head, warmth to the feet and mustard to the pit of the stomach, and mixing a dessert spoonful of mustard in two-thirds of a tumbler of warm water, I proceeded to endeavour to get it swallowed, in the hope that it might produce vomiting, or at any rate to act as a stimulant. I had remarked that all the muscles were relaxed, but when I attempted to open the mouth, to my surprise I found the teeth firmly clenched. On opening the eyelids, I found the pupils widely dilated. I succeeded in getting my forefinger between the jaws behind the teeth, and using some force I was able to open the teeth sufficiently to permit the entrance of the point of a spoon. No difficulty occurred in swallowing, and in a short time the whole contents of the tumbler was swallowed. I had directed an infusion of green tea to be got ready, of which I administered about half a pint by rectum. The mustard not appearing to excite vomiting, I endeavoured to produce it, by tickling the fauces with a feather, but with as much effect as if I had applied it to the sole of my boot. The child, however, did not appear to be worse, and I thought in about forty minutes that the pulse was rallying. I repeated the enema of green tea, and in about two hours from the commencement of the attack, or about an hour and a half after my arrival, the surface of the body began to warm, and at the end of two hours the child opened her eyes, the pupils being still much dilated. At the end of two hours and a half she spoke and asked for a drink, and drank a large tea-cupful of weak tea, but without exciting vomiting. I then went into town to procure some ammonia, and on my return found the child laughing and talking, and only complaining occasionally of the *burning* of the mustard, which I had applied over the stomach; this was immediately relieved by an application of sweet oil. On visiting the child in the afternoon I found considerable reaction had taken place, but diluent drinks and a soap bath removed every unpleasant symptom; she slept well all night and next day was apparently quite well.

The coptis, or gold thread, is a very popular remedy all over this continent, being used by the Indians, and in Canada by the " habitants" as a wash for the mouth in aphthous ulcerations, and internally as a vermi-

fuge. It is officinal in the American Materia Medica, and I am told is frequently used by the French Canadian practitioners as a substitute for Quassia.

I brought the matter under the notice of the Medical Society, at the meeting on Wednesday evening; the majority present were French Canadians, who were familiar with the plant, but who had never heard of, or met with any unpleasant consequence from its use. Some of the English practitioners suggested that the child might have been thus affected by the alcohol, but when we consider she was six years of age and in vigorous health, I can scarcely get myself to believe that so small a dose of whiskey, not *three* drachms, could have produced such complete and protracted insensibility. A medical friend has informed me that he is aware of this fact. A gentleman for a long time connected with the Hudson Bay Company, suffered from the passage of renal calculi and from their passage through the urethra from the bladder. On one occasion his sufferings were remarked by an Indian chief with whom he was transacting business; he inquired the cause, and on being told, immediately went out to an adjoining woody swamp and returned with some "Coptis," which he infused, and at once administered, with the result of producing such thorough relaxation, that the urine flowed in such volume as to carry with it a calculus, which was passed without any suffering. Now, it occurs to me, that if the Coptis is capable of producing such complete relaxation as it must have done in this case, that it is quite possible that it may have been the cause of the unpleasant symptoms in the child. Perhaps some of your readers, many of whom I have no doubt are familiar with the "Gold Thread," may be able to afford some light on the subject.

Quebec, 25 St. Geneviève Street, 4th May, 1866.

Case of Exfoliation of Alveolar Process of Lower Jaw. By D. MACKIE, M.D., Assistant Surgeon 7th Royal Fusiliers.

THE subject of this disease is a bandsman of the Royal Fusiliers; his instrument a trombone. He was admitted into hospital, Feb. 19, with extensive periostitis of the lower jaw, and he attributed the attack to cold he received in his jaw from the metallic mouthpiece of the instrument when playing at one of the rinks on the river a day or two previous. The inflammation for some days was very acute, rendering him quite unable to separate his jaws or to take any solid food. On the 26th the incisors, canines and left bicuspids were evidently loosening, and by

March 3rd, the right canine had fallen out, and there was a considerable purulent discharge from the empty socket. On the 6th a small spiculum of bone was extracted from the socket, while the purulent discharge continued, and at the same time an incision was made at the base of the incisors in front of the jaw, and a quantity of pus evacuated, which had there collected. Next day the left bicuspids, and the first true molar came away, and the discharge from their sockets was considerable. For three weeks after this, the purulent discharge continued from the three places, and many minute fragments of necrosed bone were detached from from the alveoli of left jaw. By the end of the month the exfoliation had ceased, and there was scarcely any discharge. The incisors and left canine still remained very loose; but he was now able to eat some solid food with the left side of his mouth. He was discharged from hospital on 24th April, the jaw having quite healed up, although the front teeth were still very shaky.

In this case there was no history of syphilis, nor of the use of mercury; and before his enlistment he had been employed in a cotton factory, and never had anything to do with phosphorus.

During the time that he was unable to separate his jaws, his diet consisted necessarily of slops; soup, beef-tea, and such like; and in addition, as soon as the acute symptoms had subsided, wine or porter. As he could not eat potatoes or other vegetables for some weeks, lemon juice was freely given. The antiphlogistic treatment consisted simply of emollient applications and saline purgatives, and the only medicine given after suppuration had commenced, was large doses of Chlorate of Potass, which were continued till the exfoliation had ceased, and the gum had quite healed. After he was able to eat solid food, the lemon juice was omitted; and he was allowed the most generous diet.

Note by Dr. Anderson.—Having seen this case during its progress, I requested Dr. Mackie to furnish the statement as above; and in addition, I shall only remark, that at one time a question arose as to removal of the teeth from the affected part, and I think it was wisely decided to leave it entirely to nature. I believe the front teeth which have been saved, will in time become pretty firm; but if no other end be attained, they will prove very serviceable in speech.

Quebec, 25 Ste. Geneviève Street, 3rd May, 1866.

PERISCOPIC DEPARTMENT.

Medicine.

LECTURE ON THE TREATMENT OF CHOLERA,

By Deputy Inspector-General Maclean, M.D., Professor of Military Medicine, at Netley College.

I have felt it to be my duty to speak distrustfully of many methods of treating cholera which have lately been urged on the attention of the profession and the public. Many of them, if you will excuse a homely metaphor, are the cast-off clothes of Indian practitioners brushed up to look like new. "Old Indian" doctors know them well, and make a present of them to their new and complacent wearers without a sigh. Well, gentlemen, I know no "cure" for cholera. What is more, I suspect we are never likely to see one. Nevertheless, I believe we shall in time extinguish cholera as we have, in this country at least, extinguished plague. This is one of the certain triumphs that await the slow progress of sanitation. It is probable that a whole generation of obstructives must pass away before even the initiatory steps in this great movement are likely to be taken. We have sanitary commissions in all the great Presidency towns of India; but they are without the necessary authority to act in an effective way, and, in some instances, very notably in Madras, the whole weight of those in power is exercised to obstruct the efforts of the commissioners for the public weal. We are not very much better off at home. Men ignorant or indifferent in such matters abound in high places, and in almost every municipal body in the kingdom trading selfishness and apathy prevail to the detriment of the public health. It is now time for me to point out what can be done for the benefit of those who are smitten with the disease. Although I know of no cure for cholera, I am quite sure that, by good and judicious management, we can rescue a great many who, without this, would inevitably perish.

1. You will endeavour to secure for your patients the best hygienic conditions possible under the circumstances in which you may be placed. In India, if that be possible, treat your sick in tents, and avoid overcrowding them.*

* Dr. Morehead objects to this, but, as it appears to me, without sufficient reason. When cholera prevails in an epidemic form, the ordinary hospital accommodation is not enough for our purpose, without exposing the sick from other causes to great discomfort and peril, to say nothing of other reasons.

2. It is incumbent on you at the outset of any epidemic visitation to look a little ahead, and so to arrange the duties of your attendants and assistants as not to exhaust their strength and energies in the first few days. I have seen great mischief and confusion result from want of attention to this. The first sufferers who come in under such a system are well cared for; while those who come last are neglected from inability on the part of the attendants to hold out any longer.

3. The next point is to have arrangements made, first, for the disinfection; and, secondly, for the removal of the excretions of the patients. If this be not done, the tents or hospitals, if a large number of patients are under treatment, will soon be filled with bed and body linen saturated with cholera discharges. The attendants, unless prevented, will empty the vessels containing the stools as near to the tents or hospital as they dare. As a disinfectant, Dr. Budd, of Bristol, proposes chloride of zinc; but, whatever the agent, disinfected they should be, and on no account ought the evacuations of the sick to be emptied into the latrines or water-closets used by the healthy. They should be buried in deep pits strongly charged with disinfecting agents. All soiled linen should in like manner be disinfected, and then plunged into boiling water outside the building or tent. The last case of cholera that occurred in the garrison at Malta, in the late epidemic, was that of a woman who had stolen a *chemise*, the property of one who died of the disease, She put on this fatal shirt, probably soiled with discharges, certainly unwashed, and not many days after the death of its former possessor, took the disease, and died. I mention this instructive fact on the authority of a letter from my friend Inspector-General Anderson, principal medical officer at Malta.

4. The next point is to look well to what Sydenham would have called the "constitution" of the epidemic with which you have to do. I have never seen any two exactly alike, At one time you will see the majority of the cases characterised by vomiting, excessive purging of rice-water stools, with distressing cramps; at another, you will find cramps absent. Again, you will observe that there is little purging, but excessive action of the skin; or (most fatal form of all) little purging, vomiting, or exudation from the skin, the sufferers dying almost before there is time for any of the well-known symptoms to be developed—the disease, as Magendie expressed it, "*commencing with death.*" Nothing can more clearly show how futile it is to expect a cure by merely "restraining the evacuations;" for, as I have just explained, the most fatal form of the disease is that in which there are no evacuations at all.

5. When first I went to India it was a common practice to withhold water, especially cold water, from cholera patients. A cruel and perni-

cious proceeding. The objection was, that it increased vomiting, and so exhausted the sufferer. Following the routine of the day, I have acted in this way; and I was taught by personal experience the folly of this article of prevailing medical belief. When a person has been drained by an hour or two of rice-water purging, the desire for water is urgent—instinctive: the system craves it as the "hart panteth for the water-brooks." Do not, then, be guilty of the cruelty of withholding water; give it often, and give it *cold*. Hot drinks are not relished by cholera patients. There is no necessity to give large draughts; but let not the fact that a portion of almost every supply is vomited lead you to withhold it entirely. If you have a supply of ice at hand, let your patients have as much as they please. I never saw a cholera patient to whom ice was not grateful.

6. Is it a judicious measure to apply heat externally: to cover your patients up with blankets; to stimulate the surface with counter-irritants, mustard, turpentine, and such like? Well, I have done all these things, and seen others do them again and again. Yet I question whether much is gained by them. I am quite sure that they are very distasteful to nine patients out of ten. But you will say, Patients are not good judges of what is good for them. Perhaps not. Still, I think physicians gain something in many diseases by attending to the instinctive promptings of their patients. I *know* it is so in the matter of drink in cholera; and I *think* in the matter of clothing and external heat we should follow this rule—where they are grateful to the patient they should be used, but, according to my judgment, they ought not to be persisted in if the reverse. I have not seen many cases of cholera in England, but I think I have observed greater tolerance of "blanketing" than in India. In Asiatics, the dislike to anything of the kind in this disease is universal. Mustard poultices are almost invariably applied to the epigastrium in cholera, and also to the calves of the legs. Sometimes they are beneficial; I do not think they can be hurtful.

7. Cramps are best relieved by the use of chloroform, given in doses of five or six minims in a little water; and if vomiting be excessive, a little may be sprinkled on a pad of lint covered with oiled silk or gutta percha tissue, and applied to the epigastrium; or spongio piline may be used for the purpose. I have used chloroform in this way, both externally and internally, very freely, and always with good effect. I have also seen a large dose of an alkali, the sesquicarbonate of soda or the bicarbonate of potash, instantly relieve the spasms, as well as mitigate vomiting.

8. No remedy has been more used, I should rather say *abused*, than opium. Most Indian practitioners have abandoned it as treacherous and

dangerous. I must earnestly caution you against its use. In the stage of collapse, if it is retained, it is, it *must* be, useless. But when reaction sets in, the opium, previously inert, begins to act, and is at once a serious hindrance to the restoration of the secretions, and, if the quantity given has been large, often hastening on cerebral symptoms ending in coma. These are its dangers, without, so far as I know or could ever discover, a single compensating advantage.

9. What of astringents? No class of remedies have been more used in cholera. The great anxiety has ever been " to restrain the evacuations. Yet I am persuaded that the mere purging rarely kills; and, as I have already said, in the most fatal form of cholera there is no purging, or very little. Graves recommended acetate of lead with opium, and this combination has been more used than perhaps any other remedy in cholera. Sometimes capsicum is added by way of a stimulant. Here, again, we are met by the old difficulty: what service can we expect from such combinations during the condition of collapse? Very little, I fear. And what is likely to be the action of large quantities of this powerful sedative during the stage of reaction? Will it aid or embarrass the struggling system? Again, supposing the remedy to be retained and to act, how far do we benefit the patient by controlling the purging? I don't believe that cholera is caused by " hyperæmia of the nervous centres from heat." If this hyperæmia be present, there is something else also, some *materies morbi*, some subtle poison—what, I know not,, I do not pretend to know. If it be the case, as so many suppose and as I believe, that this poison is in part at least eliminated in the intestinal canal, how far do we benefit our patient by restraining it? I have ridiculed the attempt to secure this object by mechanical means; will the use of astringent drugs stand the test of argument any better? But then experience has sanctioned them. Alas! I have had much experience, and I am sure that I was more successful, as a rule, when I withheld them. Still, there are cases where some astringent is necessary. Granting that the purging within certain limits is salutary, it may go on to such an extent as to lower the patient hopelessly. In such cases an effort must be made to restrain it. Acetate of lead should then be used, in solution, but without opium. In such cases pernitrate of iron, in full doses, might be tried. My friend Surgeon-Major Mudge, of the Madras Army, made a trial of turpentine in egg emulsion with an aromatic, and in a number of cases found it more than answer his expectations. The sufferers in whom Dr. Mudge tried it were all Asiatics. It does not seem to have caused vomiting or even nausea—the objection to which we might expect to find it open, as turpentine is generally a nauseous medicine. In one epidemic

I found nitrate of silver exceedingly useful as an astringent in excessive purging, particularly, as I noted at the time, in children; some of my native pupils used it extensively during the same epidemic in the great native city of Hyderabad, and with so much success as to gain for themselves considerable reputation. I used it again in the following year, with disappointing results—another proof of the "varying constitution of epidemics."

10. Calomel has been used to fulfil every indication in turn, according to the peculiar belief of the prescriber. Some give it as a purgative, others as a sedative, not a few "to stimulate the secretions." I have seen it given as a cure for vomiting. Then we have a pretty numerous class who give it for no reason in particular. Calomel is the trump-card in their hands; so, like good whist-players, "when in doubt," as men are apt to be in dealing with cholera, they "play trumps"—they give calomel. I have seen it given in every conceivable way, and for every possible or impossible end: in grain doses every hour or half hour, and by heroic practitioners in scruple doses again and again. But, gentlemen, it is the old story. Calomel is of no use during the stage of collapse; but by-and-by, when the powers of life begin to revive again after the shock is over, the first thing the system has to deal with and to dispose of is twenty or thirty grains of calomel. What results? Very often vomiting of that "green paint-looking matter" of which I spoke appears, and you know how hard it is to stop that; or bilious diarrhœa is excited, which soon brings the case to an end. At the best it disturbs the stomach, and interferes with nutrition. At such a time Nature needs the helping hand of the physician to sustain and assist her in the life and death struggle, instead of being searched and goaded by powerful drugs, prescribed no matter with what intention. Called to see a case of cholera a few months ago, I found calomel in combination with opium being "poured in" every hour. I ventured respectfully to ask the reason why; the patient being in a state of collapse, the medicine was accumulating in the stomach like water behind a barrier. "What, I asked, "do you expect will be the action of all this calomel when the barrier gives way, when the functions begin to be restored? The prescriber was not very sure, thought perhaps it might have "a cholagogue action—stimulate the bile." I might have asked, Is it not conceivable that Nature will do this herself? And why not stimulate the kidneys as well? Why concentrate all your attention on the bile? Is the biliary more in abeyance than any other secretion? and so on. I do not think these are impertinent questions. I recommend you to put them to yourselves when you are tempted in moments of doubt to prescribe as D'Alembert said we sometimes do—

using physic as a strong but blind man uses a club in a crowd, hitting friend and foe with equal impartiality.

11. *Stimulants*, both of a medicinal and alcoholic kind, have been much resorted to in cholera, and very naturally. The prostration of the powers of both circulatory and nervous systems is so extreme that we cannot wonder that strenoous efforts have been made to rouse and to sustain them by the free use of remedies of this class. Yet I think that those who have used them most, if observant and candid men, must admit that they have not answered their expectations; and at least all must allow they require to be given with a cautious hand. They are useful. as I shall presently show, when given at the proper time and in the right way. I do not think they are of any use during the stage of collapse, when at first sight they might appear most appropriate.

We have thus examined the therapeutic value of the remedies that have been most used in cholera. The result is not encouraging. I may say I have tried most of them, and the above is the result of my experience. You will perhaps say—Do you then advise no treatment in cholera at all? Well, I can only say that in the collapsed stage I know no drug worthy of the smallest confidence. Must we,then,abandon our patients to nature, and do nothing? Must we suffer them to die without an effort to save them? My answer is,that efforts of the kind described above are futile; your remedies are either vomited,or if,retained,are inert,and if given,as they often are, in excessive quantities, they become a serious source of embarrassment, interfering above all with nutrition. If opium, the preparations of lead, or calomel, have been abstained from, Nature, in the stage of reaction, starts, so to speak, fair, which I am sure is not the case when weighted with one or other, or, as I have often seen, with all the above. Because I objected to bleeding intemperate old soldiers of twenty years' service in tropical and malarial climates, taking blood away to the extent of upwards of a hundred ounces when suffering from peri-hepatitis, I was called the other day "the Micawber of medicine," the gentleman "who waits to see what will turn up." Well, I don't object to the name in the least; I had rather be the "Micawber" than the "Sangrado" of modern medicine. The more I have "waited" upon Nature, the less I have attempted to force her, the more I have found that "something" is pretty sure to "turn up" to the advantage of my patients. Very notably has this been the case in cholera. Some—unfortunately a great many—patients in severe epidemics will die, but such cannot be saved by pouring drugs into them in the collapse of this terrible disease.

Suffer me to recapitulate. Secure the best hygienic conditions possible for your patients; avoid crowding them; give abundance of water to

drink and ice to suck; correct cramps and inordinate vomiting by the internal and external use of chloroform; apply external warmth and extra bedclothes if these are grateful to the patient, but if they make him restless do not press them. If the cuticular discharge is excessive, wipe the patient dry from time to time, disturbing him as little as possible. If vomiting be not excessive, and if the remedy does not excite it, ten drops of the mixture I have recommended in the premonitory diarrhœa may be given from time to time, chloroform being substituted if vomiting be urgent. As soon as vomiting ceases, you must support the patient by proper nutriment. At first I begin usually with thin arrow-root, well boiled, and flavoured with a little aromatic. I give this, commencing with a teaspoonful at a time, giving every now and then a teaspoonful of brandy in it, never over-distending the stomach. Instead of water, I now quench thirst with milk containing a little lime-water, and flavoured, if it be at hand, with a few drops of curaçoa. This may be often given to the patient with a little soda-water. As reaction proceeds, I substitute strong beef-tea, or, better still, essence of meat, using it in the same cautious way—spoonful by spoonful at proper intervals; later still, eggs beat up with little brandy, and flavoured as before with curaçoa, is often relished. The greatest caution is required not to disgust the patient, not to re-excite vomiting, not to over-stimulate, and so to bring on cerebral symptoms during the febrile reaction. When patients are thus carefully nursed, it is seldom that reaction is excessive. Nothing but mischief may be expected from over-anxiety to hasten forward convalescence by too freely pressing food and stimulants on the patient. It requires a great deal of drilling and care to get orderlies and half-instructed nurses to understand this; and many cases go wrong from their over-anxiety to press both on those under their care. In a word, the treatment of cholera may be summed up in two words—*good nursing*. The difficulty is to obtain this when an epidemic rages. The man who in such scenes maintains his presence of mind, preserves order, regularity, and good hospital discipline, and so arranges as to secure to each patient a fair amount of this good nursing, will save a larger proportion of cases than by any other method with which I am acquainted. What I recommend to others I followed in my own case. When struck down by this disease, I took no drugs. I experienced the burning thirst I have described; but instead of tormenting myself by abstaining from fluids, I drank freely of iced soda-water, to my infinite comfort and refreshment. When I vomited, which I did often, I drank again. A faithful servant, my only doctor sat by me, and, when too feeble to do more than express my wants by a gesture, replenished my cup

again and yet again. I vividly remember the resolution then formed, and never since departed from—to do unto others as had been done unto me; never to withhold a cup of cold water from a cholera patient. With daylight came a kind and judicious medical friend, who, instead of goading me with physic, sustained me with food, much in the manner I have advised in this lecture. With the result I had and have every reason to be satisfied and thankful. Dangerous reaction—*i. e.*, high fever, with cerebral symptoms and coma, I have seen; but only when Art, coming not to aid but to thwart Nature, has interfered with her eliminatory processes by the too free use of opium, astringents, and such like remedies. In such cases we must have recourse to free purgation by calomel, apply ice to the head, and restore the action of the skin by the wet-sheet, cold sponging, and the like. When the secretion of urine is long delayed, I have seen good results from the free use of chlorate of potash,, and the application of turpentine stupes over the region of the kidneys.

Note.—Since the above lecture was delivered, I have seen and read with pleasure and profit Dr. George Johnson's "Notes on Cholera." This able physician has been led to much the same conclusions as to the action of most drugs in cholera as are expressed above. Dr. Johnson puts more faith in the action of purgatives than I can do; for, like every known class of drugs, they have been freely used in India. I sincerely trust that Dr. Johnson may never see so many cases of cholera as I have done; but I cannot help thinking, should it be otherwise, that he will see cause to believe with me that, in a vast majority of cases, there is quite enough purging without artificial aid. Still, for my own part, if again smitten by cholera, let me rather fall into the hands of a *purging* than an *astringing* physician—one who thinks he does you service by retaining what Nature is so solicitous to expel from the system.—*London Lancet.*

NOTES ON CHOLERA BY DR. JOHNSON.*

The appearance of Dr. G. Johnson's unassuming little volume will, we trust, be the means of calling the serious attention of the profession to the terrible subject of the Cholera. For a time this destroyer has ceased its ravages in Europe, and our shores have so far escaped its visitation. But who will assure us that this present year will pass away and leave us still unmolested? The history of former epidemics justify us only too well in anticipating that, before many months are passed, medicine may be again trying conclusions with the enemy here within our very doors.

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* Notes on cholera; its Nature and Treatment. By George Johnson, F.R.C.P., etc. London: 1866.

Dr. Johnson's book, therefore, comes opportunely. It will lead us to ask ourselves whether we are prepared to do battle with this fearful disease; whether we have any fixed method of encountering it; whether the experience of former epidemics has taught us lessons which may help us now; whether (as heretofore) we are still to proceed in treatment by the rules of the barest empiricism; or whether theory has anything to offer us as a guide amidst so much darkness. He who has followed the dealings of our French and Italian brethren in the treatment of cholera during the past six months, and has read the suggestions of our countrymen on the subject, will, we think, agree with us that, in the all important matter of treatment, we are very much where we were when the disease first visited Europe. But more than this. If we have attained to no positive knowledge of a treatment of the disease, it would appear that neither are we able to decide whether our remedies are simply negative or actually injurious in their effects. Is it not indeed true that our present dealing with the cholera—our search for a remedy for it—is very much of the same kind as are the proceedings of a chemist who indiscriminately throws into his crucible any variety of substances which first come to hand, and hopes, therefore, by some happy accident to tumble on a great discovery? Let any one read the divers methods—the in some cases opposing methods—of cure adopted by estimable practitioners; let them reflect upon the thousands of different remedies, the infinite number of cures, boasted of by legitimate members of the profession; let any one conscientiously make himself master of what the abundant pages of medicine can tell him on this score, and we are sure he will agree with us, that our preparedness to meet another advent of cholera is not a thing to boast of. We are proud of being a practical people, not over given to theory; but we are sadly apt to forget that in the application of medicine to the cure of the disease, no one of the helps on which we rely is more likely to deceive us than the one on which we rest ourselves so lovingly and so firmly, the prop experience. We forget that the wise Father of Medicine taught how fallacious in medicine experience is—*experientia fallax*; how difficult a right judgment of things; how easy to draw false conclusions, and to make the *post* stand for the *propter*. We are apt to laugh at theories in medicine; but we believe it would not be hard to show that the very greatest advances in the practice of medicine have arisen not from the lessons of mere empiricism, but have followed upon a change of theory. Buckle has a very remarkable observation on this point. He tells us:

"There is no well authenticated case on record of any theory having been abandoned because it produced dangerous results. As long as a

theory is believed, men will ascribe its evil comsequences to any cause except the right one..... Every practical change may, by careful analysis, be shown to depend in the first instance on some change of speculative opinions."

Every one who has read the history of medicine, must admit that there is at all events great truth in Buckle's remark which is quoted by Dr. Johnson; and, doubtless, as an illustration of his own exposition of the pathology of cholera.

Dr. Johnson comes before us with a new theory of cholera; and, if his theory be right, it follows that the generally accepted practice—what we might call the "orthodox" treatment of cholera—is founded on a completely erroneous basis, and is therefore itself completely wrong. And Dr. Johnson has a right to be heard in this matter. No man more so; for he has long and carefully studied the question upon which he writes; and he is an accomplished observer; and has put his theory to the test of a large practical experience, and still finds it a good theory.

Dr. Johnson, first of all, clears the ground by proving the fallacy of the ordinarily accepted theory of cholera; viz., that the collapse attending it is the result of purging and vomiting. Loss of blood-serum (as it is argued) produces collapse. Arrest the flow of serum by opium, etc., and you will prevent the collapse. Now this Dr. Johnson utterly denies; and his statements require refutation at the hands of those who adopt the serum-arresting and astringent practice. If he be right, their practice is assuredly prejudicial to life.

He proves his case in this way. In the first place (he argues), there is no direct relation between the loss of fluids and the degree of collapse in cholera; rather do they stand in an inverse ratio to each other: for experience shows that the most rapid and fatal collapse is attended with little or no purging or vomiting. Then, again, the symptoms attending the collapse are not such as mere loss of the fluids of the body would produce: blueness of skin and other signs of obstructed breathing; absence of syncope; remaining muscular power; and remarkable rapidity of recovery, as if from suspended animation by drowning, are not the signs of loss of blood or of its equivalent. Neither is the influence of treatment such as we should expect of it, if the popular theory of collapse were true. Alcoholic stimulants, Dr. Johnson asserts, increase the symptoms of collapse. "They have been given," he says, "freely and boldly; and the result has been that, in the stage of collapse, they are not only useless, but positively injurious."

No doubt the striking temporary benefit produced by injections of hot water into the veins of cholera-patients has gone far to confirm the theory

that the collapse results from loss of water. But this explanation, Dr. Johnson says, is erroneous. The benefits attending the water-injections result from this—that the heat relaxes the spasm (above spoken of) of the small pulmonary arteries, and so allows a freer temporary circulation of blood through the lungs,; and confirmatory of this is the fact, that no such good effect is produced by merely tepid water injections. Thus, in truth, the results of this mode of treatment, which seem, at first glance, to upset Dr. Johnson's theory, are, in reality, confirmatory of it.

Again, the effects of venesection in the hands of those who have employed it in cholera, are exactly the reverse of what they should be if the popular theory were true. Instead of producing syncope, it strengthens the pulse, and removes the faintness and debility. The experience of the highest medical authorities in India attests this fact. As to purgatives, indisputable records show that recoveries from collapse have occurred when both purging and vomiting have been encouraged by emetics and purgatives. And on this point, Dr. Johnson throws out a challenge which requires an answer from those who oppose his theory :

"I defy you to shew me," he says, "a single case of recovery from collapse, in which the intestinal discharges have not continued, in a greater or less degree, while the symptoms of collapse were passing off."

Now, if the popular theory and practice were correct, surely the very opposite of Dr. Johnson's assertion should be the case.

The issue is here clearly stated. *If Dr. Johnson be right, the popular practice—the astringent and alcoholic treatment of collapse of cholera—is founded on a false theory, and is a deadly and destructive treatment.*

But, if the collapse be not the consequence of loss of serum (as popular error teaches), what is its true cause ? Now here, in the answer to this vital question—vital truly to the patient, because of its direct bearing on practice—comes the theory of Dr. Johnson. It is this. The best observers of the bodies of cholera patients who died during collapse have noted, as uniformly and constantly present, those appearances which indicate arrest of the pulmonary circulation, that is, arrest of the blood in the small branches of the pulmonary artery before it reaches the capillaries : the left cavities of the heart empty ; the right cavities and pulmonary artery distended ; the minute tissue of the lung anæmic, pale, and dry.

Moreover, it is a fact, that the symptoms which we should naturally expect to represent such an abnormal condition of organs are the very symptoms which actually attend the collapse of cholera—viz., little or no pulse ; the blood sometimes not even flowing from a cut artery ; shrinking of the features ; sinking of eyeballs ; etc.

We may, therefore, start from this point, *that the partial arrest of the blood in the lungs in the collapse of cholera is a demonstrated fact.* That this arrest does not result from the thickening of the blood through the loss of its water, is proved by this, that the collapse is a sudden event; that it passes off whilst the loss of water is still going on; and that the worst cases of collapse are those in which there is neither purging nor vomiting—*i. e.*, where there is but little loss of blood-serum.

But what then causes the arrest of pulmonary circulation? Dr. Johnson maintains that the cause is to be sought in the contraction of the muscular coats of the pulmonary arteries, induced by the irritative action of morbid matter in the blood. And he adds, that the thickened condition of the blood is the consequence, not the cause, of the arrest of the pulmonary circulation; and argues it out in the following way. The stream of blood through the lungs being greatly lessened, the supply of oxygen is also necessarily lessened, and in a corresponding degree. Hence, in the collapse of cholera, there is defective oxygenation of blood and tissues; and we note its obvious results in coldness and blueness of the surface of the body, diminished amount of expired carbonic acid, and almost (though never complete) suppression of bile and urine.

To this last statement, touching the cause of the suppression of bile and urine, we would call special attention. We believe it is entirely Dr. Johnson's own; and certainly his explanation seems conclusive. He argues: Bile, urine, and carbonic acid are products of oxygenation; therefore, suppress oxygenation, and, *pro tanto*, you suppress the formation of these compounds. And he explains the fact which has been noticed, of the secretion of milk continuing in nursing mothers when suffering from cholera, by a simple chemical theory: that the constituents of milk—oil, sugar, caseine—require no oxygen for their formation.

The thickening of blood, therefore, is a consequence of defective aëration. It always occurs when respiration is impeded, as in pulmonary and cardiac diseases, and during the cold stage of ague. Dr. Dundas Thomson found the blood of a patient suffering from some affection of the bronchial mucous membrane thicker with excess of solids than any cholera-blood he had ever examined. Moreover, whenever reaction sets in, the blood becomes rapidly thinner; or, in other words, whenever the blood begins to flow freely through the lungs—*i. e.*, when its due oxygenation is re-established. And it is worthy of note, that this thinning of the blood under improved aëration will go on even though the diarrhœa may continue. Bile also then appears in the stools, as the result of the oxygenation of blood-constituents which have accumulated during the collapse.

Purging and vomiting, Dr. Johnson not unreasonably concludes, are the natural cure of cholera. They are efforts of nature to be rid of the blood-poison. The worst and most deadly cases of cholera collapse are those in which neither vomiting nor purging occurs. Nature attempts to throw off this poison through the intestinal mucous membrane, just as she attempts to throw off the poison of small pox by the skin. To interfere with the purging, therefore, is to interfere with the process of cure—to assist in retaining the poisonous element within the body, or within the digestive tube, and thereby probably to produce diarrhœa, excite fever, and increase the risk of collapse. Moreover, experience approves this view, by showing that the astringent practice is an injurious practice. Dr. Johnson affirms statistically that, under the astringent treatment, fewer patients recover from cholera than they do under that treatment which has for its object the elimination from the bowels of the poisonous secretions poured out into them.

Now it is to the consideration of the value of the theory of Dr. Johnson of cholera collapse that we would call the attention of the profession, because we verily believe, with Mr. Buckle, that no failure in treatment will ever bring men to see the error of any treatment, so long as they have full belief in the theory on which that treatment is founded. Dr. Johnson proves the error of the "orthodox" theory of collapse; and he substitutes for it another theory, which, to say the least of it, has undoubtedly remarkable claims, upon scientific grounds, to the consideration of the profession. We may truly say this of it, that there is perhaps no instance is which the theory of a disease, founded on physiological and pathological facts, more strikingly explains the symptoms and dictates the course of treatment. We therefore think that the profession is greatly indebted to Dr. Johnson for thus enforcing upon their attention at this moment so vital a question. He offers us a pathological theory which suggests a truly scientific treatment of cholera. To oppose the excretory efforts, he asserts, is the same thing as applying cold to the burning skin of scarlatina. Recovery, on the contrary, is favoured by the use of means which facilitate the escape of the morbid secretions. Emetics, mild purgatives, and diluents are the means suggested by this theory, which knows nothing of specific cures or chemical antidotes. By this means Nature is aided in her efforts at cure; and we, at all events, if we do not cure the patient, do not impede his chance of cure. Dr. Johnson argues: The old heating method of treating small-pox, which compelled the patient to breathe an atmosphere charged with the poisonous exhalations from his own skin, was suggested by an erroneous theory. The treatment of epidemic diarrhœa and cholera by opiates and

astringents is also an offshoot from an erroneous pathological theory; and now that the theory in question has been shown to be untenable, it necessarily follows that the mischievous practice which has been based upon it has become indefensible.

Such, we believe, is a correct exposition of what we must venture to consider the most valuable and original work which this publishing season has added to medical literature.—*British Medical Journal.*

EMPYEMA OF THE LEFT PLEURAL CAVITY; CURE EFFECTED IN A NOVEL MANNER.

On August 2nd, 1862, Mr. J. B. Malcolm was called to see a man, aged 26, who had been ill for a fortnight, and had been attended by a club doctor. The man was suffering from a violent cough, with little sputa, and great difficulty of breathing. On a careful examination, Dr. Malcolm diagnosed extensive inflammation of the left pleura, with effusion into its cavity. He treated him in the usual manner; but although the cough became less frequent and troublesome, and the febrile symptoms began to subside, the breathing became not less difficult, and the extensive dulness on percussion of the side increased instead of decreasing. About the end of August, after a violent fit of coughing, the poor fellow expectorated a quantity of pus, and continued daily to do so; but still there was no real improvement. In fact, all the symptoms began to be worse. He continued to suffer from night-sweats. The sputa smelt more and more disagreeably, and what little appetite he had was failing. The click of the aortic valve was clearly to the right of the sternum, and on measuring the respective sides of the chest, Mr. Malcolm found the left about three inches more in bulk than the right. On August 31st, after consultation with Dr. McGrath of Castlemaine, it was decided not to risk tapping, but to trust to nature. Day by day the symptoms became more urgent. It was manifest that the entire of the enlarged pleural cavity was filled with pus; also that there was an outlet from it, leading through the upper and front part of the lung, was equally apparent. The patient could remain for any length of time only in the sitting posture, but if he desired to rest he first leaned forward for a short time, and in this position he expectorated profusely. Afterwards he could lean backwards and rest for an hour or so without coughing or spitting. The idea occurred to Mr. Malcolm of turning the man upside down and allowing the pus to escape through the opening which the progress of the disease had already made, and which seemed to be a safe and sure means of exit. The patient was simply made to hang his head downwards over the front

of the bed, he being meanwhile held for fear of his falling, when about a quart of horribly offensive pus ran out of his mouth. This simple plan being followed night and morning, perseveringly but cautiously, the pus was gradually drawn off, the heart began to return towards it normal position, the lung to expand, and the appetite to improve. On Sept. 22nd, every bad symptom was gradually disappearing, except a slight cough, with a moderate expectoration which was no longer offensive. On October 21st he drove over to Mr. Malcolm's residence (twelve miles) a wonderfully improved man. The heart had regained nearly its natural position,. The side had fallen in very little.—(*Australian Med. Journal.*

Surgery.

THE ANÆSTHETIC SPRAY PRODUCER.

When the toy for diffusing eau de cologne in fine vapour over the skin, in the form of spray—which some time ago found its way into our drawing-rooms—first came before me, it struck me at once that it might possibly be applied to the production of local anæsthesia; and I set to work to try its applicability in this respect. I was soon afterwards assisted largely in my labours by taking advantage of Siegle's apparatus, with the hand-ball spray-producer invented by my valued friend, Dr. Andrew Clarke, and supplied by the manufacturers, Messrs. Krohne and Sesemann, of Whitechapel-road.

With this apparatus I set myself to determine the degree of cold that could be produced by the vaporisation of all the known volatile liquids, and I determined the fact that the intensity of the cold produced, held a definite relationship to the boiling-point of the fluid used; the rule being that the lower the boiling point the greater was the amount of cold exhibited. In these inquiries I employed a very delicate thermometer, directing the spray upon the bulb from half an inch to an inch and a half from the point of the jet. By these means I learnt that with rectified sulphuric ether I could bring down the thermometer within 10 degrees Fahr. of zero, and that by directing the jet on the skin I could produce a certain definite and marked degree of local insensibility, but not sufficient for surgical purposes.

I next got Mr. Krohne to construct for me a hollow cylinder of thin metal, six inches long and three inches in diameter. In the circumference of this cylinder was a chamber one-eighth of an inch in diameter for containing ether. The ether communicated with a tube which was joined to an air-tube, as in Siegle's apparatus, and the centre of the cylinder was filled with ice

and salt mixture. In this way the ether was reduced to zero, and when vaporised gave spray which brought down the thermometer six degrees below zero, and produced on the skin such entire insensibility that I could pass a needle through the part without sensation. On the 11th of December, 1865, I applied this process for the first time on the human subject for an operation. The patient was a lady, who required to have five front teeth extracted. I had previously administered chloroform to this lady for a tooth extraction, but the inhalation had produced so much irregularity in the action of the heart and other disagreeable symptoms that I considered it inadvisable to repeat chloroform, and she herself was only too ready to give the local measure a trial. The extraction was performed by my friend, Mr. Peter Matthews. On directing the ether spray first at a distance and then closely upon the gum over the first central incisor on the left side, we observed, at the end of fifty seconds, that the gum had become as white as the tooth itself, and quite insensible. I then directed the vapour upon the tooth for twenty or thirty seconds more, and on the patient intimating that she did not feel, I suggested to Mr. Matthews to proceed. He extracted a very firm tooth without the slightest expression of pain. The process being continued in the same manner, he extracted three other teeth with the forceps. The fourth gave way, and had to be removed by the lever; but in all cases the result was equally good. Not a drop of blood was lost; there was no painful reaction; and the healing process proceeded perfectly. Our patient, who was exceedingly intelligent, was specially requested to note every step of the operation, such as the applying of the forceps, the insertion of the blades beneath the gum, the loosening process, and the removal. She told us that in two of the extractions she felt nothing; that in one it seemed as though the jàw altogether were being pulled downwards, but without pain; that in another she was conscious of a kind of wrench or loosening, but without pain, and that the introduction of the lever was attended with a momentary dull ache, just perceptible. On the whole, the process was quite as painless as when she took chloroform.

On December 13th, I applied the local anæsthetic to the same lady for the further extraction of nine teeth, Mr. Peter Matthews again operating. The results were equally good with the first seven; at which point, unfortunately, the apparatus partly ceased play. At the eighth tooth pain was felt, and at the ninth, the apparatus being out of play, the operation caused great pain. We regretted this much, although it gave us the information of the perfect action of the process when no mechanical obstacle interfered with it. The reason why the apparatus stopped

play was very singular, and could hardly have been foreseen. It arose from the condensation of water derived from the air in the air tube, and from the blocking up of the fine jet with a little portion of ice.

In the next step of research I got Mr. Krohne to make for me an apparatus with two spiral tubes, one the air tube, the other a tube for ether; and I immersed these spirals in a closed chamber filled with ice and salt. The degree of anæsthesia at first produced was most intense, and Mr. Spencer Wells was good enough to allow me the opportunity of applying the process in a case where an operation was required for closing a perineal rupture. Unhappily the apparatus, from the very same cause as before, ceased to yield a current; water condensed and became frozen in the air-tube. The apparatus itself was also found to be too cumbersome for practical purposes; I therefore, in this trial, failed to obtain any result.

By this time I had been led, very reluctantly, to the fact that the use of ice and salt for reducing the ether was a failure when the plan came to be tried in practice, nor could I see any ready way of preventing the difficulties that were brought before me. Added to these difficulties there was another, which has always attended my friend, Dr. Arnott's plan, viz., that of getting the ice and salt readily for operation. To succeed, therefore, it was requisite to dispense with ice and salt altogether.

In considering how this object could be achieved, it occurred to me that if a larger body of ether than is supplied by Siegle's apparatus could be brought through the same jet, by mechanical force, in the same interval of time, and with the same volume of air, a proportionate increase of cold must necessarily be produced. The theory was one of pure physics, admitting even of arithmetical demonstration, and running parallel with the lessons which had been taught me with respect to the cold produced by liquids having different degrees of boiling point. The theory was put to the test at once, and proved correct to the letter. By driving over the ether under atmospheric pressure, instead of trusting simply to capillary action—or to suction, as in Siegle's apparatus—the spray evolved brought the thermometer within thirty seconds to four degrees below zero—the result that was desired.

Ascertaining this truth, I instructed Messrs. Krohne and Sesemann to construct a very simple apparatus.

The apparatus consists simply of a graduated bottle for holding ether; through a perforated cork a double tube is inserted, one extremity of the inner part of which goes to the bottom of the bottle. Above the cork a little tube, connected with a hand bellows, pierces the outer part of the

double tube, and communicates by means of the outer part, by a small aperture with the interior of the bottle. The inner tube for delivering the ether runs upwards nearly to the extremity of the outer tube. Now, when the bellows are worked, a double current of air is produced, one current descending and pressing upon the ether forcing it along the inner tube, and the other ascending through the outer tube and playing upon the column of ether as it escapes through the fine jet. By having a series of jets to fit on the lower part of the inner tube, the volume of ether can be moderated at pleasure; and by having a double tube for the admission of air, and two pairs of hand bellows, the volume of ether and of air can be equally increased with pleasure, and with the production of a degree of cold six below zero.

By this simple apparatus, at any temperature of the day, and at any season, the surgeon has thus in his hands a means for producing cold even six degrees below zero; and by directing the spray upon a half-inch test-tube containing water he can produce a column of ice in two minutes at most. Further, by this modification of Siegle's apparatus he can distribute fluids in the form of spray into any of the cavities of the body—into the bladder for instance, by means of a spray catheter, or into the uterus by a uterine spray catheter.

When the ether spray thus produced is directed upon the outer skin, the skin is rendered insensible within a minute; but the effects do not end here. So soon as the skin is divided the ether begins to exert on the nervous filaments the double action of cold and of etherisation; so that the narcotism can be extended deeply to any desired extent. Pure rectified ether used in this manner is entirely negative; it causes no irritation, and may be applied to a deep wound, as I shall show, without any danger. I have applied it direct to the mucuous membrane of my own eye, after first chilling the ball with the lid closed.

I have now employed this mode of producing local anæsthesia in four cases on the human subject. The first case was the extraction of a tooth from a lady, the operation being performed by my friend and neighbour, Dr. Sedgwick, on January 24th of this year. On the 29th of the same month I used it again on the same lady, for the extraction of three very difficult teeth, Dr. Sedgwick again operating. The results were as satisfactory as in the previous case, where the ice and salt ether apparatus was used.

I have used the apparatus also in connection with my friend, Mr. Adams, who had a case at the Great Northern Hospital of deep dissecting abscess in the thigh of a young woman. In the abscess there was a small opening, which just admitted the director. I first narcotised

around this opening, and the director being introduced, Mr. Adams carried his bistoury nearly an inch deep and one inch in the line of the director. I then narcotised the deep-seated parts, and enabled him to cut for another inch and a half in the same direction. The director was then placed in the upper line of the abscess, the process was repeated, and the incision was carried two and a half inches in that direction. The patient was entirely unconscious of pain, and after narcotising the whole of the deep surfare, Mr. Adams inserted his fingers and cleared out the wound without creating the slightest evidence of pain.

Afterwards in the case of a lacerated wound, six inches long, in the arm of a boy, who had been injured with machinery, I narcotised while six sutures were introduced by Mr. Adams. The first needle was carried through without the anæsthetic, and caused expression of acute pain ; the remaining eleven needles, after a few seconds' administration of the ether spray, were passed through painlessly. The twisting of the wire sutures gave no pain.

These results are so interesting that I make no apology for bringing them at once before my Medical brethren. I wish it to be distinctly understood that at the present moment I only introduce the method here described for the production of superficial local anæsthesia. It is, I believe, applicable to a large number of minor operations, for which the more dangerous agent chloroform is now commonly employed—I mean such operations as tooth extraction, tying nævus, tying piles, incising carbuncles, opening abscesses, putting in sutures, removing small tumours, removing the toe-nail, dividing tendons, operating for fistula, removing cancer of the lip, and other similar minor operations which I need not mention. The process may also be applied to reduce local inflammation.

In course of time, and guided by experience and the advancement of science, we may, however, expect more. If an anæsthetic fluid of negative qualities, as regards irritation of nerve, and which has a boiling point of 75° or 80°, can be obtained from the hydro-carbon series, the deepest anæsthesia may be produced, and even a limb may be amputated by this method. It may also turn out that certain anæsthetics may be added to the etherial solution with advantage, such as small quantities of chloroform, or some of the narcotic alkaloids, if they could be made soluble in ether. A solution of morphia and atropia combined, if they could be diffused through ether, which at present seems impossible, could thus be brought into action so as to cause deep insensibility. In operating on the extremities it would be good practice to stop the current of warm blood by making pressure above on the main artery.

Reaction from the anæsthesia is in no degree painful, and hæmorrhage is almost entirely controlled during the anæsthesia.

One or two precautions are necessary. It is essential, in the first place, to use pure rectified ether; methylated ether causes irritation, and chloroform, unless largely diluted with ether say one part in eight—does the same.

The *modus operandi* of this process is exceedingly simple. It acts at first merely by extracting force, and afterwards, when the nevous filaments are exposed, by preventing the conveyance of force through them. To be plain, sensation means the conveyance of force or motion from the extreme parts to the brain. The motion is communicated by the blood in the form of heat: it is communicated to the nervous filaments, and by them is conveyed to the sensorium. This is passive sensibility. When we irritate a nervous fibre, as by a cut, we communicate more motion rapidly along that fibre and cause pain. This is active or exalted sensibility. To remove sensibility, therefore, we must adopt one of three processes: we must remove or render inert the sensorium; we must stop the evolution of force generally by arresting oxidation of blood; or we must rob the body locally of its force beyond that with which it is constantly being renewed. We see the first of these processes in action in cases of pressure on the brain, as from injury or effusion of blood; we see the second whenever we produce general anæsthesia by charging the blood with chloroform or other analagous anæsthetic; and we see the third when, by means of extreme cold, we rob the local part of the force that has been brought to it by the blood.

The problem of local anæsthesia will consequently be quite solved when by a rapid process we can exhaust the natural force of a part as fast as such force is evolved in the local structure; and especially when with this we can combine the action of a substance which for the moment controls, as by compression, the conducting power of nerve matter. These two latter objects are to a large extent carried out by the method I have described above.

The Principle of the Process.

The principle of the new anæsthetic process consists in directing on a part of the body a volatile liquid having a boiling point at or below blood heat, in a state of fine subdivision or spray, such subdivision being produced by the action of air or other gaseous substance on the volatile liquid to be dispersed.

When the volatile fluid, dispersed in the form of spray, falls on the human body, it comes with force into the most minute contact with the

surface upon which it strikes. As a result there is rapid evaporation of the volatile fluid, and so great an evolution of heat force from the surface of the body struck, that the blood cannot supply the equivalent loss. The part consequently dies for the moment, and is insensible as in death; but as the *vis a tergo* of the body is unaffected, the blood, so soon as the external reducing agency is withdrawn, quickly makes its way again through the dead parts, and restoration is immediate. The extreme rapidity of the action of this deadening process is the cause of its safety. The process can suspend life without causing disorganisation; if I may use the expression, it produces syncope of the part—temporary death—but not necessarily destruction. When we produce general anæsthesia we virtually extend this mere local action to the body altogether—*i. e.*, we check the evolution of force at the centre, and produce an approach to temporary death of the whole of the organism.

The Instrument.—Improvements.

In my original paper, I described simply the single dispersion-tube. Since then, I have made a large number of tubes to answer various powers and purposes. I have a tube in which there is a bulb enlargement at the end with perforated side, or side and central jets. This tube is exceedingly useful for the cavities of the body, such as the vagina or rectum. It distributes the fluid in the same manner as a syringe with several perforations at its point. In practice, I find that the dispersion of the fluid delivered from one fine tube by a series of jets is not so efficient, proportionately, as when it is delivered by one jet; the fluid, that is to say, requires a certain degree of concentration to ensure success.

In order to multiply the anæsthetic producing power, I have other instruments constructed which may be called compound. In these cases the bottle holding the volatile fluid either receives a common central tube of large size communicating with a number of terminal jets, or each terminal jet has a separate jet running into the fluid. By this means I have a brush of jets, which may be circular, or long, or flat, as required. For this compound tube a six ounce containing bottle for the fluid is necessary, and additional bellows power. The present small hand bellows will only work a compound jet of two elements with efficiency. I have tried various plans to do away with the hand bellows. I have used carbonic acid compressed into an iron bottle, and have applied the gas in its escape so as to act in the same manner as the air from the bellows. The apparatus complicates, and the pressure of gas cannot be so nicely regulated. I have modified this plan also by trying to get force by generating carbonic acid gas at the time; also by generating hydrogen from

zinc and dilute sulphuric acid, and using the pressure of the gas as the distributing agency,

Again, I have tried water pressure, as in the common gas holder; and I think in the dentist's room this plan would succeed well, if the preliminary expense were no obstacle. But taking all in all the hand ball bellows are as yet the most practical and most ready; they carry in the pocket, and one can go with them to the patient and commence anæsthesia at once—a great consideration. In many small operations, requiring only one or two strokes of the knife, the whole may be done painlessly, while the patient thinks the preparations are merely being made—much, of course, to his gratification.

Several suggestions for the improvement of the jets offer themselves for consideration; the fish-tail gas-burner, the Argand burner, the conservatory water engine, and many other mechanical contrivances similar in kind will occur to every one as worthy of imitation, and as quickly as they can be made they will be produced and tested.

The Fluid to be Used.

I still continue to use absolute ether for operations, and now, as Mr. Robbins has produced an ether of specific gravity 0·720 of negative effect on the tissues, and having a boiling point of 92° Fahr., a better fluid can hardly be demanded. Many other fluids have been suggested by various readers of my original paper—viz., methylic ether, amylene, monochloretted chloride of ether, pure chloric ether, nitrite of ethyle, a volatile hydrocarbon derived from the manufacture of portable gas, chloroform, rectified turpentine, and numerous compounds and mixtures. As regards these I may state that they have all been under my careful consideration, but that as yet none of them, taking their quallties all in all, are equal to absolute ether. Some are open to rejection at once from their boiling point being too high; others are unpleasant, and would not admit of being used in operations on the mouth or teeth; others cause irritation of skin; others in their pure state are so extremely volatile that they could not be kept in the surgery for any length of time—this is specially the case with methylic ether and nitrate of ethyle, both promising substitutes for ether; lastly, a body too volatile would somewhat affect the operator during the operation if it were diffused in the pure state.—Nitrite of ethyl is open to this objection not so much as the nitrite of amyl would be, but to some extent.

In time we may, perhaps, by experiment, get a compound volatile mixture which, being as negative as absolute ether in its effects on the body, shall boil a few degrees lower.

Before leaving this topic, let me state that the mere alteration or change of the volatile fluid used is no change of the principle of the present anæsthetic process. Ether itself is only a local anæsthetic on being employed according to this principle. This is important to be borne in mind, otherwise a principle may become confounded with a detail, and every fluid with a low boiling-point and the other physical qualities, as I have described them, for producing insensibility will be dubbed a local anæsthetic. By a slip of the pen, indeed, this error was committed in the *Medical Times and Gazette* of last week, a short leading article having been headed "Kerosolene a Local Anæsthetic." Kerosolene—a body very impure, unpleasant, and of unsteady but low boiling-point—when applied by my method acts like ether, because it resembles ether physically. But kerosolene is no anæsthetic *per se*, although it would serve as a substitution agent for one part of the anæsthetic process, in the same manner, and in none other, as an earthenware bottle would take the place of the graduated glass bottle in which the volatile liquid is commonly retained.

Dr. F. D. Fletcher, of Southport, has suggested to me the employment of liquid carbonic gas, and, as will be seen by last week's *Medical Times and Gazette*, Sir James Simpson has had carbonic acid in view for some years. I believe the first physiologist who actually tried to apply the reducing agency of carbonic acid for the production of anæsthesia was the late Dr. Snow. He went to great trouble and expense to experiment on the gas in the solid state, and he applied it in that state to his own skin. Singularly enough, the insensibility produced was slow and imperfect, but the worst feature was that slough was always produced on the part where the acid had been applied. Snow, therefore, gave up the effort, convinced that carbonic acid in the solid form could never be made applicable in actual practice, and that if it could it would not be a safe agent.

I myself moved for a time in a similar direction by using carbonic acid in the liquid form. Mr. Robbins supplied me with the gas reduced in a three-pint iron bottle under pressure. When the stop-cock was opened and the carbonic was liberated through a fine jet, an intense cold was produced; but I utterly failed in attaching a conveying tube that would be applicable for operations. The pressure, in a word, was unmanageable, and for ordinary practice, dangerous. In one experiment, while the jet was being directed on the back of my hand, the nozzle of the tube became set free, and, being projected with violence, injured me severely. I, therefore, like Snow, gave up carbonic acid as a body that would not submit to guidance, and as impossible to use in surgical practice.

We need not, fortunately, trouble ourselves on this subject. I have shown that by the dispersion of fluids of low boiling points we can get a

degree of cold which answers the required purpose without employing fluids or gases under pressure. If we want more than absolute ether, chemistry can furnish us with fluids which boil even at below 70° Fahrenheit, which fluids, dispersed as vapour, would fill the purpose of carbonic acid with only one disadvantage—that of being difficult to keep in store during many months of the year.

The Practice.

In effecting local anæsthesia by my process the surgeon, according to the nature of the case, may either produce entire blanching of the surface to be operated on, or may stop short of that extreme result, and only induce a superficial anæsthesia. In my first experiments, made with the ordinary ether of the shops, I employed the second form of anæsthesia alone, and even now when a mere puncture through the skin or mucous membrane is required, I still resort to this method, reserving the extreme action for cases where deep-seated parts have to be divided.

For producing the deep anæsthesia with superficial whiteness it is necessary to use absolute ether, and to direct the spray in brisk current at a distance of about an inch from the part. To induce the less determinate condition the ether may be diluted. This may be done by mixing alcohol with the ether, or better still chloroform. Two mixtures of this kind are very useful; one contains six parts of ether and two of chloroform, the other seven of ether and one of chloroform. In using pure ether, or the mixture, differences of time are required. To cause insensibility with the simple fluid—ether—from fifteen to fifty seconds only are necessary. To produce insensibility by the mixture of ether and alcohol, or of ether and chloroform, from four to five minutes are demanded. The sensation felt by the patient also differs. When pure ether is used little if anything is felt until the moment when the part becomes white: then there is a sharp, pricking, burning sensation. When the compound or mixture is used, the sensation, very prolonged by comparison, is that of numbness and aching. On the whole, I have found patients generally prefer the more rapid procedure.

The nature of the operation will, to a large extent, determine the method to be resorted to. For opening an abscess, for incising a small carbuncle, for tying a nævus, or removing very small tumours, for applying nitric acid, and for operations of a similar kind, the mixture of ether and alcohol, or of ether and chloroform, answers every requirement. I should myself also use the mixture in an operation for hernia, because the tissues would not be rendered hard, and the dissections could be carried on with delicacy. But for deeper operations, such as removal of the nail,

of portions of bone, of fingers, and the like, the complete action of the anæsthesia requires to be brought into play. For teeth extraction the pure ether also answers best—it acts rapidly and deeply, and there is no great accumulation of fluid in the mouth. By practice, the two degrees of action I have named may be obtained by the employment of ether alone: I mean, the degree of anæsthesia from the spray of absolute ether can be determined by the distance from the part at which the spray is directed: by removing the jet three inches from the part, a moderate effect is produced, nearly equivalent to the dilution of seven parts of ether with one of chloroform. The condition of the patient generally ought likewise to be considered. Aged and weak people become anæsthetic very readily, and for them the milder process is most applicable.—*Medical Times and Gazette.*

MEDICAL NEWS.

Professor Brande, D.C.L., F.R.S., the veteran chemist died at Tunbridge Wells, England, on the 11th February, at the ripe age of eighty years. He was an ardent lover of chemistry, and when quite young was introduced to Sir Humphrey Davy, as " a boy fond of chemistry," This introduction lead to an intimacy which continued till the death of Sir Humphrey. Brande's work on Chemistry has been in the hands of the profession almost from generation to generation. At the time of his death he was engaged editing a Dictionary of Science and Art three parts of which only have appeared.

Sir Dominick Corrigan, the Irish Medical Baronet, has lost his eldest son, Capt. Corrigan of the 3rd Dragoon Guards, He died in Melbourne, Australia, where he had gone from India on sick leave.—The entire value of the estate of Dr. Valentine Mott of New York, was $400,000.—The cholera conference was opened at Constantinople on the 13th of February.

The following paragraph, which we copy from the *Medical Times and Gazette*, will be read with pleasure by Dr. Nicoll's many friends in Montreal. Dr. Nicoll served with his regiment, which was stationed in this city from January, 1862, to September, 1864. " The election of a medical officer to the charter house has been decided in favour of Charles A. Nicoll, Esq., Battalion Surgeon, Grenadier Guards. There were originally eighteen candidates, one of whom did not go to the poll. Amongst them were two army surgeons, one retired militia surgeon, one or two physicians, and the rest were general practitioners. The appointment has for many years been considered the great prize for the general practitioners of the vicinity."

Canada Medical Journal.

MONTREAL, MAY, 1866.

CANADA CENTRAL BOARD OF HEALTH.

PRESCRIPTION FOR CHOLERA.

The following prescription, recommended by the Central Board of Health for the Province, is kindly forwarded to us to-day by the President, Dr. MacDonnel, from Ottawa city, where the Board is sitting, and we publish it in the assurance that any remedy emanating from that body will be thankfully appreciated by the public at the present time:

OTTAWA, April 28, 1866.

The following members of the Central Board of Health, considering it prudent that the public should be supplied with a remedy to be used in the diarrhœa preceding cholera, until the services of a physician can be procured, think the "Medical Field Companion," so generally used in the British army in India, may be safely employed. The following articles enter into its composition:

Oil Aniseed, Oil of Cajeput, Oil of Juniper—of each half a drachm; Sulphuric Æther, half an ounce; Strong Sulphuric Acid, seven drops; Spirits of Wine, twenty-three drops; Tincture of Cinnamon, two ounces: mix.

Ten drops in a table spoonful of water, to be taken every quarter of an hour, until medical services can be procured, or until relief is obtained.

(Signed,) R. L. MACDONNEL, M.D., President; JOHN R. DICKSON, M.D., J. A. GRANT, M.D.. Secretary; CHARLES G. MOORE, M.D., W. T. AIKENS, M.D.

We take the above from the *Montreal Gazette* of May 2nd, 1866, and we must say, if this is pretended to be an official act on the part of the Central Board of Health, that we have never met with a more glaring act of official ignorance. The remedy above mentioned is recommended and used by the army medical authorities as a powerful diffusable stimulant, to promote reaction both in cases of cholera and diarrhœa. It is not given

to check diarrhœa, as is pretended by the above; but after the diarrhœa has done its work and the patient is sinking exhausted, the above prescription is resorted to, but not under the name of the Medical Field Companion. The Companion of that name is a box with compartments, the dimensions of which are, length 13 inches, breadth 6¼ inches, and depth 8¼ inches: the contents are medicines, pills, powders, and surgical appliances; such as, rollers, lint, plaster, sponges, needles, thread, a razor in case, shaving soap, and a graduated horn cup; the whole to weigh eleven and one quarter pounds. With regard to the above remedy we would refer our readers to Dr. Aitken's work on the Science and Practice of Medicine, fourth edition, vol. 1, page 665. "To promote reaction in cholera and "diarrhœa, the following formula has met with most universal approval "in this country and in India. So highly is it valued, indeed, that it "is ordered to be always in store, and in readiness in the 'Medical "Field Companion' of the army when on the march." We may mention that Dr. Aitken is the Professor of Pathology in the Army Medical School; the article "Cholera" in his work will repay persual. But coming back to this "Prescription for Cholera," heralded with full official dignity as emanating from the Central Board of Health for the Province of Canada, is it a fact that *this is* the recommendation of this very eminent body? We have recently received several letters on the subject requesting us to deny that it is the recommendation of the Board of Health of the Province, but that the gentlemen whose signatures are attached to the document, are alone responsible. We cannot do better, in conclusion, than quote a paragraph from the letter of one of our friends. He says: "I am very anxious to see the name of the Board, and my name "clear of what I hold as the ridicule of recommending a *nostrum*. A "*cholera mixture* is to me what would be a *typhus mixture*, a *small* "*pox mixture*, a *phthisis mixture;* just as good outwardly as inwardly "as Perry Davis' Pain Killer, Bristol's Sugar Coated Pills, Mrs. Wins-"low's Soothing Syrup; and a thousand of the like. I regard all for-"mula as dangerous, and that the medical adviser of a family is the only "one to prescribe compound drugs or medicines." This last observation we most fully endorse; and if families are anxious to keep in their houses medicines to be used in cases of emergency, let them have the common civility to apply to their physician if they have confidence in his knowledge and honesty; *if not*, then can they run after the recommendations of the five members of the Central Board of Health for the Province of Canada; or Dwight's Cholera Mixture or Dixon's Blackberry Carminative, or Hamlin's Remedies for Cholera, or the whole category of trash to be had at any of our drug stores for ready money.

McGILL UNIVERSITY, MONTREAL.

FACULTY OF MEDICINE.

M.D., C.M., Holmes Medal Examination, Session 1865--66.

This prize is given by the Medical Faculty of the University, and is to perpetuate the memory of the late Professor A. F. Holmes, M.D., LL.D., It is the highest honour given in this Faculty and is awarded by special written examination to the competitor who shall take the greatest number of marks. Members of the graduating class can alone compete and those only who shall have prepared a thesis of sufficient merit in the estimation of the Faculty to entitle him to that privilege. The special examination extends over two days. The theses this year were considered so very excellent that twenty-two names were handed into the Dean of the Faculty as entitled to compete for the medal. The successful candidate was George Ross, M.A., of Montreal. We may mention that Dr. Ross graduated with honour in the Faculty of Arts of McGill University. The following were the questions in the various Branches.

Friday, April 27th.

Note.—This Medal, founded by the Medical Faculty, is open for competition to those members of the graduating class who have undergone successfully their final examinations, and whose inaugural theses are deemed respectively worthy of 100 marks or more, the maximum number of marks for any thesis being 200. Complete answers to all the questions are equal to 400 marks (50 for each branch) making the total number obtainable 600.

ANATOMY.—2 to 3 p. m.

Examiner.....W. E. Scott, M.D.

1. Describe the perineal fascia, having reference to the anterior or urethral portion of the perineum ; mention the parts contained between the superficial fascia of the perineum and the deep or triangular ligament; give the origin, course and distribution of the internal pudic artery.

2. Name the muscles of the anterior tibial region, and give the relations of the anterior tibial artery.

3. Give the orgin, extent, division, relations and branches of the subclavian arteries.

CHEMISTRY.—3 to 4 p. m.

Examiner.....W. Sutherland, M.D.

1. What is the formula of urea ? give the calculation whereby the percentage of its nitrogen is established, and what volume of this gas is equal to a grain of urea.

2. What is the colour and the composition of the precipitate produced by sulphydric acid with each of the following substances :—arsenious acid, oxides of antimony and cadmium, peroxides of tin and iron ?

3. Describe the manner of preparing the pure and dilute cyanhydric acid : what are its properties, what the mode of estimating its strength in any specimen, and its tests in a case of fatal poisoning by it ?

MATERIA MEDICA, 4to 5 P. M.

Examiner.....W. WRIGHT, M.D,

1. Specify the adulterations of iodide of potassium, and state how they are known.

2. Mention the actions of digitalis in medicinal doses; also the morbid states of the body, and of special organs, as the heart, brain, &c., in which it would be indicated, as well as those in which it should not be administered.

3. Give the officinal preparations according to the British Pharmacopœia ; firstly, of Barbadoes aloes ; secondly, of Socotrine aloes, and name their constituents.

INSTITUES OF MEDICINE.—5 TO 6 P. M.

Examiner.....W. FRASER, M.D.

1. What are the functions of the spinal cord as an independent nervous centre ?

2. State the different channels through which nutritious and other matters can be absorbed into the blood, and the elaboration which some of them undergo in their transit.

3. Give the composition of bile, the physiological origin of its elements, and the purposes served by it in intestinal digestion.

SATURDAY, APRIL 28TH.

THEORY AND PRACTICE OF MEDICINE—2 TO 3 P.M.

Examiner.....R. P. HOWARD, M.D., L.R.C.S.E., &c.

1. Explain the modes in which the several causes of Bright's disease act, and give illustrations of each ; describe the morbid appearances in the several stages of the "large white kidney," and the characters of the urine in that variety and in the "contracted kidney."

2. What are the conditions favourable to the development of zymotic diseases ? Give in detail those specially operative in the development of cholera.

3. Describe the more important differences observed in the course and termination of chronic Phthisis; state the principles which should guide the physician in selecting a climate for the subjects of the disease, and explain the circumstances in which he should not recommend travelling.

CLINICAL MEDICINE AND MEDICAL JURISPRUDENCE—3 TO 4 P.M.

Examiner.....D. C. MACCALLUM, M.D., M.R.C.S. LOND.

1. Mention the different pathological changes in the kidney which give rise to albuminuria, and state also the physical and microscopical characters of the urine, and the general symptoms attending each.

2. What are the diseases that may be mistaken for neurotic poisoning? Describe the principal features of each, and state in what particulars each disease differs from poisoning.

3. Give the characteristics of blood stains, the methods of detecting them by the iron, nitrogen, and albumen, which they contain, and describe the characters of the stains with which blood stains may be confounded.

SURGERY AND CLINICAL SURGERY—4 TO 5 P.M.

Examiners..... { GEO. W. CAMPBELL, A.M., M.D., &c.
R. CRAIK, M.D.

1. Give the symptoms and causes of compression of the brain produced by injury. Under what circumstances should the trephine be employed, and when should we abstain from operating; and are there any cases where operative interference is proper without serious symptoms?

2. Give the symptoms and treatment of the different forms of iritis.

3. Give the diagnostic characters of infecting and non-infecting chancres, with the treatment applicable to each class.

MIDWIFERY—5 TO 6 P.M.

Examiner.....A. HALL, M.D.

1. How would you distinguish between the corpus luteum of pregnancy at full term, and one of an ordinary catamenial period?

2. How would you distinguish between accidental and unavoidable hemorrhage?

3. Under what circumstances are the operations of version and embryotomy required, and what is the smallest antero-posterior diameter through which a living child has been extracted.

ANNUAL CONVOCATION, McGILL UNIVERSITY.

Second Day.

The Annual Convocation of this University was held in the William Molson Hall, on Wednesday, 2nd May, for conferring Degrees in Arts, and on Thursday, May 3, for conferring Degrees in Medicine and Law.

The proceedings were opened with prayer by the Reverend the Vice Principal.

The minutes of the last year's Convocation were then read by W. C. Baynes, Secretary.

George W. Campbell, A.M., M.D., Dean of the Faculty of Medicine, announced that the number of students in attendance, during the past session, was 178, as follows:

From Canada East	93
Canada West	72
New Brunswick	3
Prince Edward Island	2
Nova Scotia	3
Newfoundland	1
United States	4

The number of students who have passed their primary examination for the M.D., C.M. Degree, which includes Anatomy, Chemistry, Materia Medica, Institutes of Medicine, and Botany or Zoology is 39, as follows:

John R. Smallwood, Montreal, C. E.; Emery Allard, Belœil, C. E.; Albert Roy, St. Hyacinthe, C. E.; James O'Leary, Kamouraska, C. E.; George Dickinson, Ottawa, C. W.; Richard King, Peterborough, C. W.; Richard S. Markell, Osnabruck, C. W.; Clinton Wayne Kelly, Kentucky, U. S.; Wm. McCarthy, Henryville, C. E.; James Howard, St. Andrews, C. E.; John M. Wanless, Montreal, C. E.; Peter A. McIntyre, Charlottetown, P. E. I.; Wm. H. Fraser, Perth, C. W.; Edward K. Patton, Quebec, C. E.; Robert L. McArthur, Martintown, C. W.; Francis L. Howland, Arcona, C. W.; David M. Cassidy, Montreal, C. E.; Donald McDiarmid, Newington, C. W.; John Vicat, Montreal, C. E.; Lafontaine B. Powers, Port Hope, C. W.; John S. Proudfoot, Chatsworth, C. W.; Henry McGowan, Kingsey, C. E.; Edward J. C. Roberts, Fredericton, N. B.; Wm. B. Malloch, Ottawa, C. W.; Clarence R. Church, Merrickville, C. W.; James W. Oliver, St. Catherines, C. W.; John A. S. Macdonald, Charlottetown, P. E. I.; John Brandon, Warwick, C. W.; Wm. Grant, Williamstown, C. W.; Charles O'Reilly, Hamilton, C. W.; Edmund Paradis, St. Denis, C. E.; John Gillies, Morristown, C. W.; James A. Nesbitt, Hemmingford, C. E.;

John Madill, Essex, C. W.; W. Dougan, St. Catharines, C. W.; Arch. McLean, Port Sarnia, C. W.; John Bell, M. A., Kingston, C. W.; Hy. Harkin, Montreal, C. E.; Calixte Ethier, St. Joseph, C. E.

The following are the names of students presented for the Degree of M.D., C.M., their residences and the subjects of their theses :

Geo. Ross, M.A., Montreal, C.E., Asiatic Cholera; Samuel Campbell, Glengarry, C.W., Pneumonia; Alexander Falkner, Lancaster, C.W., Croup; Edmund C. Walsh, Montreal, C.E., Excision of Joints; Edmund Longley, Waterloo, C.E., Arterial Hemorrhage; William Fuller, London, C.W., Nutrition; John McCurdy, Chatham, N.B., Fatty Degeneration; Thomas D. Laney, Owen Sound, C.W., Pleuritis; James A. Knowles, Cookstown, C.W., Some of the Causes of Disease; John Corsan, Milwaukie, U.S., Evils of Tight Lacing; Julius Leavitt, Melbourne, C.E., Function of Plants; Charles E. Hickey, Williamsburgh, C.W., Carcinoma; James B. Hall, Montreal, C.E., Asiatic Cholera; Rufus S. Parker, Newport, Nova Scotia, Stricture of Urethra; Alexander R. Ferguson, Williamstown, C.W., Hydrophobia; Alexander Anderson, Georgina, C.W., Scrofulous Ophthalmia; Chas. H. Cooke, Mount Pleasant, C.W., Chloroform; Wm. Wakeham, Quebec, C.E., Treatment of Mania; Alex. C. Savage, Ottawa, C.W., Typhus Fever; James Hayes, Simcoe, C.W., Anesthetics; Philip Burrows, Ottawa, C.W., Pneumonia; Ben. F. Burch, Fort Covington, U.S., Dyspepsia; Emery Allard, Belœil, C.E., Cholera; John Bell, M.A., Kingston, C.W., Acute Rheumatism; James O'Leary, Kamouraska, C.E., Hysteria; Jonas J. G. Harvey, Brockville, C.W., Tetanus; James C. Irvine, Montreal, C.E., Peritonitis; Chas. S. Parke, Quebec, C.E., Pneumonia; George Duncan, Montreal, C.E., Abortion; Thomas Gendron, Beauport, C.E., Hernia; Ben. S. Wilson, Roslin, C.W., Typhoid Fever; John Adsetts, Assist. Surg. R. Artillery, Quebec, Delirium Tremens; Jas. T. Halliday, Vernonville, C.W., Circulation of Blood; Charles E. Graham, Ottawa, C.W., Acute Rheumatism.

The following gentlemen passed their examination, but are not of age. Their Degrees will be conferred next meeting of Convocation :—

William Gardner, Beauharnois, C.E., Valvular Heart Disease; Patrick Robertson, St. Andrews, C.E., Scarlet Fever; David M. Cassidy, Montreal.

The Medical Faculty prizes consist, first, of the Holmes Gold Medal, founded by the Faculty in honour of their late Dean, and two prizes in Books, for the best Primary, and best Final Graduation Examinations.

2. The Holmes Gold Medal is awarded to the Student who, being of the Graduating Class, and having passed the Final Examinations, shall have prepared a Thesis of sufficient merit in the estimation of the Faculty to entitle him to compete, shall take the highest marks in a special examination for the Medal.

George Ross, M.A., Montreal, was the successful competitor for the Medal.

William Gardner, Beauharnois, C.E., gained the Prize for the best examination in the final branches, and Clinton Wayne Kelly, Kentucky, U.S., for the best examination in the Primary branches.

Professor's Prize in Clinical Medicine, John McCurdy.

Prize in Natural History, Botany—O. H. Clarke and A. A. Henderson.

PRACTICAL ANATOMY—DEMONSTRATOR'S PRIZES.

Senior Class—For general excellence as practical anatomist and for punctuality of attendance, prize awarded to Mr. A. E. Spohn. Students who deserve honorable mention as good practical anatomists—Messrs. W. H. Fraser, C. W. Kelly, L. B. Powers, T. G. Roddick, and J. Quarry.

Junior Class—The prize is divided between Messrs. Octavius H. E. Clarke and Thomas J. Alloway. Both these gentlemen deserve credit for their care and painstaking in this department of their studies. Students of the first year, who deserve mention for diligence and attention, are Messrs. G. J. Bull, A. L. Wilson, F. D. Lucas, and C. J. Hamilton.

Students who have passed the examinations in Natural History:

BOTANY.

Class 1st.—O. H. E. Clarke, A. A. Henderson, G. F. Bull, W. H. Howitt, F. J. Tuck, W. Cherry, and A. E. Spohn.

Class 2nd.—A. Renfret, F. A. L. McNab, T. J. Alloway, W. McFarlane, W. P. Buckle, J. Campbell, T. Wilson, J. Pridham, C. J. Renfret R. A. D. King, and J. McFie.

Class 3rd.—A. Harkness, F. Hall, T. Archer, J. A. Whyte, A. Garneau, A. Gillatly, D. D. McBain, C. Dansereau, J. H. Wye, T. de Grosbois, D. Fraser, J. Stinson, J. Stewart, A. L. Wilson, W. Cruise, R. Spenser, A. Tanguay, and A. V. Clement.

ZOOLOGY.

Class 2nd.—T. A. Rodger.

Mr. Ross was then called forward, and received the Holmes Gold Medal, the Chancellor expressing a hope that he might prove as good a man and as devoted to science and the duties of his profession as the late Dean of Faculty, whose name the medal bore.

Dr. Ross, we may also mention, was Chapman Medallist of the year in which he graduated in the Faculty of Arts.

The Dean of Faculty then delivered the prizes to the prize-men.

The Graduates were then called up, and having made the required declaration, received formally the Degree of M.D., C.M.

Dr. Hickey then delivered the valedictory on behalf of the new Graduates.

Professor Fraser then delivered a very excellent parting address on behalf of the Faculty to the new graduates.

After the proceedings of the Law Faculty, the Convocation was addressed by the Vice-Chancellor, who alluded with gratification to the steady increase in the number of students attending the University, especially in the Arts Faculty, the largest percentage of increase being in that Faculty. In proof of the advantage of thorough preparatory studies in competing for professional eminence, he alluded to the fact, that the medallists of this year of the two professional Faculties, had both graduated in arts, taking medals in that Faculty also.

The proceedings were closed with the benediction, pronounced by the Rev. Professor Cornish, and the Convocation adjourned.

COLLEGE OF PHYSICIANS AND SURGEONS, C.E.

SEMI-ANNUAL MEETING HELD AT MONTREAL, 8th AND 9th MAY, 1866.

In presenting the following report, we must state that the Secretary for the District of Montreal, Dr. Peltier, has afforded us every facility in obtaining the necessary information. The minutes of the October meeting, held in Quebec, have not been laid before our readers because we have been unable to obtain them. They were received in Montreal, we believe, some three weeks ago, but we are forced to decline their publication as the time has passed by.

The semi-annual meeting of the College of Physicians and Surgeons of Lower Canada was held on the 8th and 9th of May, at the Mechanics' Institute of Montreal, for the purpose of examining Candidates for License, and Students to the study of medicine, and for general business concerning the profession at large.

The following Governors were present :—Drs. Chamberlin, Sewell, Brigham, Marmette, Smallwood, Tétu, Dufresne, Charbonneau, Badeau, Dubé, Lavoie, Landry, Hamilton, Gilbert, Weilbrenner, Blanchet, Tassé, Robillard, Gibson, Rottot, Michaud, Howard, A. G. Fenwick, Worthington, Boyer, Russell, Ross, Robitaille, Scott, Jackson, Tessier, Boudreau, G. E. Fenwick, and Peltier.

Dr. Chamberlin, the President, at 10 a.m., precisely, took the chair. The Secretary for the District of Montreal was requested to read the minutes of the October meeting, which were duly appproved on motion of Dr. Landry, seconded by Dr. Jackson.

Dr. Peltier laid before the meeting several subjects concerning the College, amonst which, a petition from the Medical Convention of St. Hyacinthe District, begging for protection against unlicensed practitioners, and the consideration by the Board of a Medical Tariff prepared by them.

It was then proposed by Dr. Sewell, seconded by Dr. Smallwood : That the petition now read be referred to a Committee of five, to consist of Drs. Dufresne, Tassé, Gilbert, Worthington, Lavoie, A. G. Fenwick, with a request to report thereon at the next meeting of the College.

Moved by Dr. Gilbert, seconded by Dr. Hamilton : That the Committee to be appointed for the purpose of petitioning the Legislature for extending the powers of the College in reference to the establishment of a Benevolent Fund, for regulating the sale of poisons, and to give the College the power of conferring Fellowships, shall consist of the following gentlemen : Drs. Ross, Peltier, Smallwood, Robillard, Tassé, Marsden, and Howard.

Proposed by Dr. Smallwood, seconded by Dr. Scott : That Drs. Marsden, Landry, Russell, Peltier, Rottot, and Robillard, be the Committee for the revision of bye-laws.

Moved by Dr. Blanchet, seconded by Dr. Tessier : That Alfred Gauvreau Belleau, M.D., licentiate of four years' standing, be admitted a member of this College. Both Committees from Montreal, and Quebec, severally named to examine and report on the advisability of a better method of examination, came to the conclusion to postpone the consideration of the question to the October meeting. It was then moved

by Dr. Landry, seconded by Dr. Gilbert: That a Committee, to consist of Drs. Landry, Marsden, and Russell, be requested to prepare a report thereon.

Proposed by Dr. Howard, seconded by Dr. Landry: That in prospect of the not improbable importation of Cholera into this Province, at no remote period, a Committee be named to collect information and facts respecting the circumstances of its appearance, diffusion, progress, extent, mortality, methods of treatment, and upon the several other matters of scientific interest connected with the disease.

That, with that object, a *circular* containing a series of questions constructed on the model of those issued by the College of Physicians of London in 1849, but modified and extended as may appear wise to the Committee, be distributed amongst the members of the College, and Profession generally, and that all members of the Profession, and especially all Physicians to Hospitals and other Public Institutions who may acquire a large experience of the disease, be respectfully invited to co-operate with the Committee in procuring all reliable information on a subject of such extreme importance to mankind.

Proposed by Dr. Tessier, seconded by Dr. Sewell, that the following be the Committee: Drs. Peltier, Smallwood, and Howard, to prepare the questions; and that Drs. Landry, Von Iffland, and Marsden, co-operate with the above gentlemen in collecting the information.

The college then resolved itself into committees for examination.

The following gentlemen, bearers of diplomas of McGill University, duly received their license:

Drs. Emery, F. Allard, James O'Leary, Edmond C. Walsh, William Wakeham, Charles S. Parke, Edmond Longley, Henry A. Mignault, J. Clarke Irvine, also J. Leman, L.R.C.S.E., R. C. Clarke, L.R.C.S.I., and David Green, L.R.C.S.I.

The following gentlemen, students from the School of Medicine and Surgery, Montreal, and Laval University, Quebec, after examination duly received the license of the college, viz:—

Messrs. Constant Loiseau, Marcellin Perras, Alcidas Archambault, H. Ladouceur, G. Leroux, J. Montmarquet, A. Laviolette, A. Thibeault, G. J. Roy, F. X. Bernier, A. Gervais, E. A. Caron, L. Lafontain, Ed. Hetu, L. Lafard, G. Grenier, A. Artois, P. B. Lahaye, C. Sampson, A. Dechamps.

The following gentlemen were after examination duly licensed as druggists, viz:

Messrs. J. Aitken Harte, J. T. Tuck, R. Spencer, J. Pridham, J. E. Davignon, J. Bowen, W. H. Laroche.

The following gentlemen were admitted to the study of Medicine:

Messrs. A. F. Dame; J. B. Commeault, L. Mitigny, A. Duval, G. Madore, J. B. Laporte, W. Dick, J. B. Bosseau, C. Gingras, A. Robitaille, L. N. Levasseur, F. Davignon, L. Guest Labarre, S. Martineau, L. Corbeil, H. Héroux, E. Gauvreau, E. Laterrier, Ignace Chauret, Ant. Deslages, Onesime Giasson, Noah Pratt, W. Dignan, J. Bergeron, J. B. Ouimet, W. Murphy, H. Russell, and E. H. Rouleau.

The following gentlemen were admitted to the study of Pharmacy, viz: Messrs Serafino Giraldi, and W. B. V. Thompson.

The meeting then adjourned at seven o'clock p.m., until the following morning.

May 9th, 1866. The meeting assembled at 9 a.m., for the purpose of continuing the examinations, as several of the gentlemen above named had not been examined the previous day, time not permitting. Several accounts were submitted and ordered to be paid, amongst which Lelievere and Angers for legal advice. Drs. Scott and Smallwood were appointed auditors of accounts. The business of the college being concluded, the President ordered the names of those governors present to be taken. They were as follows:—

Drs. Chamberlin, Landry, Russell, A. G. Fenwick, G. E. Fenwick, Dubé, Robillard, Charbonneau, Boudreau, Dufresne, Blanchet, Tessier. Gilbert, Howard, Smallwood. Rottot, Tetu, Boyer, Worthington, Weilbrenner, Lavoie, Scott, and Peltier.

Errata in our last.—The concluding paragraph on the treatment of Hypermetropia, on page 448 should read as follows: * * * * * " if a patient has a *total* hypermetropia equal to $\frac{1}{10}$, and a *manifest* hypermetropia of $\frac{1}{30}$, his *latent* hypermetropia ($\frac{1}{10} - \frac{1}{30}$) would equal $\frac{1}{15}$; one fourth of $\frac{1}{15}$ is $\frac{1}{60}$; this added to $\frac{1}{30}$ ($\frac{1}{30} + \frac{1}{60}$) equals $\frac{1}{20}$. We would therefore prescribe at first, 20 inch convex spectacles, which we would afterwards change successively for +18, +16, &c., &c.

The Editors of the Dublin Medical *Press and Circular* will please accept our apologies for not giving them credit for two articles which appeared in our February number. It was an omission which we regret, and which we will in future do our best to guard against. We are firm believers in giving credit to every journal for whatever we may select from their pages; and thank the *Medical Press* and *Circular* for drawing our attention to the fact.

NOTICE TO CORRESPONDENTS.

Dr. Paton, Bowmanville. If he wishes his paper to appear in our columns, it will have to be sent to us, postage paid. We do not pay for original communications, as we receive barely sufficient to pay the printer. Twelve copies of the Journal containing the paper sent, are allowed to *subscribers* who forward a communication. In case the person sending a paper for publication not being a subscriber, he is not entitled to receive extra copies unless paid for at the usual rate. Dr. Paton's paper can be read before the Medico-Chirurgical Society of Montreal by his sending it to the secretary.

If "Medicus" will forward us his name we will with pleasure insert his communication.

CANADA

MEDICAL JOURNAL.

ORIGINAL COMMUNICATIONS.

Experience among some of the Wounded who fell at the Battle of Limestone Ridge, June 2nd. By William Caniff, M.D., &c.

Believing that the medical profession of Canada, in common with every other class of the community, has regarded with patriotic eagerness the events connected with the Fenian invasion, I have thought it might prove interesting, if not instructive, to supply to the Canada Medical Journal such facts relating to the wounded as came under my notice, especially those with which I had to do. Others who acted a more prominent part in treating the wounded I trust will furnish their experience, so that what I may say will prove valuable as a connecting link.

Actuated by a feeling which I doubt not many of my professional brethren experienced, to do something in the common cause, I, as soon as aware that fighting had commenced, set out for the scene of action. Leaving Belleville, on Saturday the 2nd inst., the day of the battle of Limestone Ridge, I proceeded to Toronto, which place I reached Sunday morning between four and five o'clock. Learning that a military train would leave at ten for the front, I arranged to go thereby, and through the kindness of Col. Mountain I was enabled to reach Hamilton at about mid-day. I there joined a company of Hamilton physicians who were about to leave by a special train, carrying provisions and necessaries, to render any service that circumstances might require. Shortly after passing St. Catherines, we crossed a train bearing some fifteen of the wounded from Port Colborne. They were to be taken to St. Catherines, where an hospital was being hastily prepared for their reception. Our train reached Port Colborne about four in the afternoon. The place was thronged with the military and civilians. Already an hospital had been established here under the care of Surgeon Ryal of the 13th Battalion, and everything

was being done that could possibly be in the way of nursing, comforts, &c. Dr. Beaumont of Toronto, was in constant attendance in consultation with Dr. Ryal. There were nearly twenty then in hospital. I did not examine many of the wounded. Indeed there seemed a serious danger that the crowd of medical men who had arrived, would prove to be deleterious to the wounded who so badly required repose. I casually glanced at a few, two of whom were Fenians. One of these had been at work in Hamilton until a few days before the invasion. One of them had received a scalp wound, and the other a cutaneous wound near the groin. Towards night, a boat arrived from Fort Erie with a few wounded under the care of Dr. Elliott, who had been active during the engagements, and who had found it necessary to amputate at the thigh one of the unfortunate men. At Dr. Elliott's request, I examined this patient immediately upon his arrival, and found that notwithstanding the shock incident to battle, and the subsequent operation, and then the removal, he was doing very well. Dr. Elliott had him conveyed to the hospital and placed under the care of Dr. Ryal, and then returned to his post at Fort Erie.

The following morning I was requested by Dr. Ryal to proceed to the battle field and take charge of the wounded yet remaining there. Mr. Routh of Hamilton, specially desired me to take charge of his brother, Lieutenant Routh, who was very severely wounded. Taking such medicines and comforts as were available, I at once started by an impressed carriage. I reached Ridgeway, distant from Port Colborne twelve miles, at eleven o'clock. The battle field lies somewhat to the north of Ridgeway and something over a mile. I was told at Ridgeway village that the wounded were at the "Smuggler's Home," and a small house close by it. Upon my arrival, I found Dr. Billings of Hamilton in charge of the wounded, also Dr. Allen of Brantford, a homœopathic physician who had been early upon the field. Dr. Billings wished to return immediately to Hamilton, and after explaining to me the nature of the wounds and what had been done, took his departure. During the time he had been there he had done much to make the wounded comfortable. Finding them lying in the clothes in which they had fallen in the field, he had assisted to place them in comfortable beds, and in other respects had contributed to their comfort. There were two of the wounded in a small house, Lieutant Routh of Hamilton, and Private White of Toronto. A third, Private Lugsten, of Toronto, was at the Smuggler's Home, a tavern, which was not far off. The small house had been inhabited by a German, and was by no means cleanly. It consisted of two rooms, a patient lying in each. Lieut. Routh was in the kitchen part, the cooking stove being

very near his bed. I immediately ordered a place to be prepared without for the stove, and to have it removed forthwith, which was accordingly done. Kind-hearted but thoughtless visitors were constantly coming to see the wounded. This was strictly forbidden ; and quietude of body and mind was in in every possible way promoted.

As to the nature of the wounds I shall not speak with any great certainty. I found the patients placed in bed after having been examined by not a few medical gentlemen. It was not my duty to subject one of the poor but brave fellows to a moment's needless examination, to satisfy my curiosity. In the main I accepted the opinions that had been offered respecting the character of the wounds, and acted accordingly. Private White, who first came under my notice, I was told had received a ball through his left arm breaking the bone and entering the body, and was supposed to remain somewhere near the spine. Dr. Billings had placed the arms in splints ; and ice water was being applied to the arm and also to the chest. The patient said this gave him great relief, and it was consequently continued. In the after part of the day his arm became very painful, and I removed one splint and placed the arm upon a pillow quite exposed and had ice directly applied. This gave him great relief.

Lieutenant Routh, I was told, had received a chest wound, and that the ball had pierced the lung and made its escape. I could not see the posterior wound, but from the situation of the anterior one, which was external to the heart, I thought it quite possible the lung had escaped. I found no symptoms of lung wound. The shock had evidently been severe to the unfortunate fellow, but from this he was rapidly rallying. From experience I had during the American war, I was enabled to offer a more favourable opinion than had been given before, which had a very happy effect upon him. Private Lugsten I found occupying a more comfortable room at the tavern. His brother and a few friends were giving him evidently too much attention. He was supposed to be very near his end, his case having been pronounced hopeless. His was also a wound of the chest, the ball having passed somewhat to the right side, perhaps at about the sixth rib. Here again I was led to doubt whether the ball had entered the lung. He was in a state of great excitement and restlessness, the pulse being in the neighbourhood of 140. I was inclined to attribute this in part, to the incessant conversation kept up respecting his own willingness to die. I at once told his brother that as he was well prepared to die it were much better to stop talking to him and keep the room very quiet. Quite contrary to the opinions which had been given, I said I certainly thought he might get well. I asked Dr. Allen, who was in immediate attendance what he was giving him, and he said nothing. I

suggested something to lessen the heart's action, and inquired if he had antimony or digitalis, (I was then ignorant of the fact that Dr. Allen was a homeopath,) he replied no, but he had veratrum viride, which he said he would give in any dose I suggested. I saw Lugsten at a later hour of the day, when I found he had been resting—the action of the heart was much reduced; and there was a gentle moisture of the skin. At this time, accidentally hearing that Dr. Allen was a homeopath, I felt it my duty to say to that gentleman and to the brother of the wounded man, that I could not consistently continue in consultation. Dr. Allan replied that we were there as surgeons not as physicians. To this I said that medicines were required to control the heart's action, which I thought could not be done by infinitesimal doses. He said that was no dogma of homeopaths, and that he was not giving the medicines in such doses. The brother, who knew me very well when practising in Toronto, and who was a believer in homeopathy, earnestly begged me to remain in consultation. I pointed out to them that inasmuch as homeopaths professed to practice medicine upon theories directly antagonistic to ours, as they incessantly declared they had discovered a true theory which showed ours to be wrong, it would not only be inconsistent but absurd for us to consult together. I further said that if surgical interference were required I should, under the circumstances, sink my objections. However, at the earnest and renewed request of the brother I did call, as a friend, occasionally, while I remained at the place. I have fully stated these facts, because at the present time there is some feeling among the members of our profession against one or two who do not refuse to consult with homeopaths. I cannot conclude the matter without speaking of the very gentlemanly manner in which Dr. Allen conducted himself towards me. My time henceforward was confined to the two other wounded. By this time the small house in which lie my own patients, began to assume somewhat the appearance of comfort. Under the hands Lieut. Routh's brother, mother, and young wife, who had come since my arrival, much had been done, not for the brother alone, but the wounded comrade. Up to this time bread, butter and milk constituted the best of the food which could be procured, for the Fenians had thoroughly stripped every farm house; but now some beefsteak and eggs improved the appearance of the table, which was set in the wood-shed. Upon inquiry I learned that neither of my patients had a motion of the bowels for several days. I had not many drugs with me, and gave each a dose of calomel, and an anodyne draught. The house possessed but one bed beside those occupied by the men. This was brought by Mr. Routh. While this bed was set apart for the two ladies I am sure neither slept, from the fact that I always found one by

the side of the wounded. I was glad to be allowed to recline upon a short bench, having for a covering an outside coat which had belonged to one of the dead. I had found it necessaay to change the position of the arm of private White, after which he slept for some hours. Routh did not rest so well. Towards midnight the pulse of each was considerably increased in frequency; but this was in a few hours remedied, and in the latter part of the night they both rested tolerably well. Probably they would have rested better had it not been for the shameful conduct of a person in an officer's uniform, who having purloined a bottle of stimulant, made himself somewhat noisy. In striking contrast to him I must mention the kind nursing of an elderly lady, Mrs. Rebecca Danner, upwards of sixty-five, who lives within a mile of the battle-field. When our volunteers were advancing, she, like a prudent woman, at once thought they would be wanting bread, and set to work to bake for them; before she had completed this noble-hearted work, she was alarmed to see them retreating in some confusion. They rushed to her door demanding water! water! She and a young daughter, who indeed where the only females who had not left the neighbourhood, drew water for them—first one and then the other; and when there would be a lull, they would fill pails and vessels of every kind for the next that came; but, bye-and-bye, Fenians came. These suspicious wretches would not drink the water thus drawn, lest it had been poisoned, and the women were compelled to draw afresh. It is but justice to say that they treated Mrs. Danner and daughter unexceptionably. Shortly after Mrs. Danner set out for the battle field, and all the night long was engaged with others (among whom was her sister, a Mrs. Douglas, and a young lady) in administering to the wants of the agonized men. It was this Mrs. Danner who sat up the livelong night, and patiently and tenderly watched over private White, applying ice to the wounded arm and wetting the dry lips. In this connection I must mention the name of Dr. Brewster, who lives at Ridgeway, and who, when our forces retreated, advanced into the enemy's lines and did all he could for the brave fellows who had been left behind. He worked all the day and all the night, in connection with the brave, noble woman, to whom I have referred. The following morning I found the three men in all respects better. My own patients were particulary comfortable. The bowels had not yet moved, so I proceeded to administer an injection to each, having brought with me the necessary syringe. After repeating, each had a free evacuation. But I now felt it my duty to leave. Information reached us in the forenoon, direct from Toronto, that fighting had commenced below Kingston. As my fellow townsman had been ordered to that point, and my family lived in that region, I deemed it right that

I should depart, notwithstanding the interest I already felt in my patients. Mr. Routh at once acknowledged the superior claim, and immediately sent a telegraphic dispatch to Hamilton for Dr. Mullin to take my place. Before leaving I took every pains to make the men comfortable, and secured the willing promise of Dr. Brewster that he would see them every few hours until my successor arrived.

My short stay did not allow me to become fully acquainted with the course the balls had taken; but I left a note offering my opinion that in the case of private White, he ought to be very shortly put under the influence of chloroform and the fracture of the humerus thoroughly examined —that I believed the bone was badly shattered—that pieces would require removal—that very likely the fracture had extended into the shoulder joint and that amputation would be found necessary. According to the daily prints of Toronto this operation has subsequently been performed. By the same authority I have learned that the other patients are in a fair way of recovery.

I have to acknowledge the kindness of Mr. Spicer, of the Grand Trunk Company, in affording me facilities in going to and from the battle field.

Belleville, 19th June, 1866.

Three Cases of Fracture of the Skull. By Thomas Simpson, M. D. *Sault Ste. Marie.*

The following abridged notes of three cases of fracture of the skull seriously complicated, occurring in my practice within eighteen months, are, I think, of sufficient interest to warrant their publication, as furnishing additional instances of grave injury to the skull, unaccompanied or followed—at least in two out of three—by constitutional disturbance of such consequence as to demand special consideration. Indeed in the last case in which the depression in the centre of the fracture considerably exceeded the thickness of the skull, and a circular portion of dura mater over an inch in diameter was completely destroyed and removed, there was not, from the commencement, any derangement of the functions of the nervous system, or any constitutional disorder. The danger to be apprehended in a case of this description is the supervention of diffuse menitgitis, which generally proves fatal. Always imminent, it almost invariably follows a comminuted fracture in this situation, if by any chance the careful and complete removal of every detached fragment of bone, or sharp projecting spicula in contact with the dura mater, be neglected.

In the case of L——, I think from the time and manner of recovery, we

may infer that the insensibility was owing in a great measure to alcohol; still I think the bleeding was warranted by the state of the skin, pulse, and the nature of the accident.

August, 1863. Called one evening to see L——, aged about 50 a confirmed drunkard, who I was told had been seen staggering into a stable about one hour previously, very drunk, and was found a short time afterwards lying insensible on the floor, and bleeding from the temple.

The following appearances were noted—face flushed, pupils dilated and sluggish, breathing slow and occasionally sterterous, pulse 60 and full, skin bathed in perspiration. Insensibility almost complete, which his friends insisted was caused by drink. He frequently raised his hand to his head as if to arrange his cap, which he had been in the habit of wearing constantly, in order to conceal his baldness; no contraction of muscles, twitching or convulsion; liquid swallowed with little hesitation. A wound one inch in length situated on the left side of head, a little below the middle of the temporal ridge, and leading to a fracture having, from size and shape, evidently been inflicted by the calk of a horse's shoe: it extended through both tables, and the depression was very apparent. On removing the clots and washing the wounds, an artery commenced to bleed freely; the blood was allowed to flow until the pulse became reduced in volume. The wound was then dressed—cold applications to head. Directed an enema to be given at once, and to be followed in four hours by a dose of calomel and jalap. On the morning following he was sitting up somewhat excited; answered rationally when questioned; had been restless towards morning; had got up whenever the medicine operated; in short, he had the usual appearance and manner of a drunkard on the morning following an evening's debauch. One week after the accident he was walking about as usual; and in six weeks I met him on the road, drunk—the wound still discharging pus freely; in two months the wound had completely healed, leaving a marked depression.

November, 1863. Called to see C——, a miner, aged 52 said to be seriously injured underground by a premature explosion. Note the following one hour after the accident—conciousness unimpaired, calm, pulse 58 and full, skin moist and cool, respiration natural, face contused and swollen; both eyes injured, the right slighly, the left completely destroyed, the humors having escaped. Wound immediately above the inner angle of left eye, about an inch in depth, extending through the orbital plate of frontal, and of sufficient width to admit of the easy introduction of the index finger. Extracted three loose fragments of bone. There was also a fracture of the sup. maxilla at their junction an inch and a half in breadth, displacing the alveolar and palate processes backwards,

requiring considerable force to rectify, and a fracture of both bones of the right forearm at about their middle. He complained for a few days after the accident of headache, and suffered from slight fever, but made a rapid recovery.

January, 1865. T——, a powerful healthy miner, aged 46, had fallen into a shaft 24 feet in depth, its bottom covered by masses of broken rock. Saw him in about an hour after the accident. Found him in bed, calm and sensible, with the following injuries: Fracture of the left thigh through the trochanter major, fracture of both bones of the left forearm about two and a half inches above the wrist and slight displacement of the bones of the carpus in their relation to each other, as well as to the radius and ulua, a wound of the scalp situated at the superior part of frontal bone near the median line, which discovered a fracture of the skull deeply depressed, of oval shape, about one and half inches in length and one inch broad, in a line with and one inch to the right of the sagittal, and crossed by the coronal suture, an additional fissure extending an inch down the frontal bone. By means of dissecting forceps, elevator and scalpel, eighteen pieces of bone, ranging in size from small spiculæ, to a fragment one inch in length and half an inch wide, were removed. In none was the full thickness of the skull represented, each being a part of the outer or inner table with a portion of diplôe. The fracture of the inner table was much more extensive than that of outer. The dura mater was much torn, and shreds removed with the bone. Convolutions of the brain *seemingly* shrunken, giving one the idea that the brain did not fill completely its proper chamber. No wound of the substance of the brain noticeable. Hæmorrhage slight. Tepid water dressing to wound. On the second day the chasm was completely filled with a firm, gelatinous, semi-transparent substance of a pale red colour which slowly scaled over, the wound healing rapidly under the incrustation, with a trifling discharge of healthy pus and without a single untoward symptom. At the end of ten weeks he was able to go about on crutches.

Lectures on the Diseases of the Eye, recently delivered before the Ophthalmic Class of the Toronto School of Medicine. By A. M. Rosebrugh, M.D.,

(*Continued from page* 452.)

Part ii. Lecture 1. The Ophthalmoscope.

The invention of the ophthalmoscope by Helmholtz, in 1851, marks the commencement of a new era in ophthalmic medicine and surgery,

for up to that time nothing was, or indeed could be known of the appearance of the deep structures of the living eye, either in health or disease. With the help of this instrument however, all the parts of the eye involved in vision can be brought under the eye of the surgeon. We can now determine the existence and variety of cataract even in its earliest stage. It demonstrates floating bodies in the vitreous humour as well as turbidity of that body. The ophthalmoscope discloses apoplexy of the retina in which mercurials would be contra-indicated; it also shows us cases where lymph is effused upon some of the deep structures of the eye in which the influence of alteratives may prove advantageous. It reveals the characteristic appearances of glaucoma which indicates a resort to *iridectomy*, an operation which has been very successful in relieving blindness from this cause. In short we may say with Hasner "what the telescope is to astronomy, the ophthalmoscope is to ophthalmology."

These are a few of the many uses of the ophthalmoscope, and if we wish to keep pace with the advances of ophthalmic science, it is absolutely necessary for us to thoroughly understand the use of this instrument.

In the short space of one lecture however, I can not hope to do more than give some hints that may prove of service to you in your future investigations of this subject. Those who wish to pursue it further should refer to the elaborate works of Rainy, Hulke, and Zander, and to the coloured plates of Liebreich.*

The cause of the blackness of the pupil.

It is well known that under ordinary circumstances the pupil of the eye appears to be perfectly black, and that all parts behind it are perfectly invisible: this was formerly thought to depend on the complete absorption of all the rays of light that fall upon the fundus or posterior internal surface of the eye, so that none of them passed out again from its interior.

That this is not the case can very easily be demonstrated by a simple experiment suggested by Coccius:—"Having previously dilated the pupil of a cat's eye by a solution of atropine or belladonna, drop some

* Theory of the Ophthalmoscope. By G. Rainy, M.D., Glasgow. The use of the Ophthalmoscope. By J. W. Hulke F.R.C.S., London. The Ophthalmoscope. By A. Zander, translated by R. B. Carter, F.R.C.S., London. Atlas der Ophthalmoscopie, Dr. R. Liebreich, Berlin.

The above works can be procured through Dawson Brothers, Montreal, or through Chewett & Co., Toronto.

water into the eye while the eyelids are held apart, and cover the cornea with a thin plate of glass. The optic nerve entrance and the vessels of the retina can then be distinctly seen slightly magnified."

In this experiment we in reality neutralize the refracting condensing power of the convex surface of the cornea. The water, filling up the space between the cornea and the piece of glass, changes the *convex* to a plane surface. From this it is evident that as the fundus of the eye comes in view, when its refractive power is to a certain extent neutralized, *therefore the blackness of the pupil and the invisibility of the parts behind it depend solely upon the refraction of the light by the ocular media.*

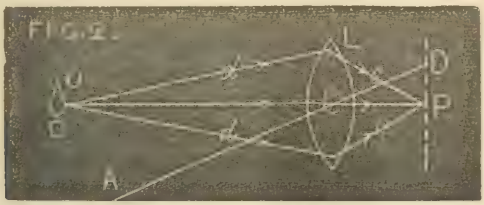
This phenomenon of refraction may be demonstrated with any small camera obscura by simply placing a piece of pasteboard behind the ground glass so as to exclude all light from the camera except what reaches it through the lens; the ground glass being in focus, distinct images of objects in front of the lens are formed on its surface, notwithstanding which, the interior of the *camera* when viewed through the lens appears absolutely black.

In the camera obscura we have an imitation of the eye, its ground glass screen representing the retina, and its lens—the cornea and lens of the eye.

This can also be very simply demonstrated with an ordinary pill box, by making a circular aperture in the centre of the lid about half an inch in diameter, and cementing behind it a convex lens of $1\frac{1}{2}$ inch focus. If the bottom of the box is exactly at the principal focus of the lens, namely $1\frac{1}{2}$ inches behind the (optical centre of the) lens, rays of light from distant objects in front of the aperture will form a focus at the bottom of the box, where an inverted image of those objects is formed. The aperture of this box may be exposed to the brightest sun light, and still its interior will appear perfectly dark, and nothing will be seen behind it except the reflections of light from the surfaces of the lens. We might imagine that the rays of the sun, entering the aperture, would illuminate the whole of its interior, so that the eye of an observer, occupying some position in front, would be able to see some portion of the bottom of the box. We must remember however that the beam of solar light, after passing through the convex lens, is converged to a focus and illuminates a portion of the bottom of the box not larger than the head of a pin.

Thus, in Fig 1, P P represent parallel rays falling upon a convex lens by which they are converged to a focus at F in the axis of a line passing through the optical centre of the lens.

The same thing occurs if the aperture is exposed to the light of a lamp. If the light is brought near the aperture however, the distance must be increased between the lens and the bottom of the box. For example, if the light is six inches from the lens, the focus of the convergent pencil will be formed two inches behind the optical centre of lens; the bottom of the box must therefore be placed this distance behind the optical centre in order to receive the inverted image of the flame. I may here remark that such an apparatus would represent a myopic eye having for its "far point" a distance of six inches. In whatever position the light is held the aperture will still appear dark, and the interior of the box will remain invisible. If the light is placed between the eye and the aperture, so as to place the eye in a line with the light entering the box, the light of the lamp will dazzle the eye, so that nothing can be seen.



In Fig 2, let the lens L represent the 1½ inch convex lens behind the aperture of the pill box, O the flame of the lamp, d d diverging rays from the lamp, c c these rays converged by passing through the lens, and P the point at which the convergent rays form a focus at the bottom of the box. By an inspection of this figure, it will be seen that the eye of an observer looking in the direction of the line A C, will not be able to see the illuminated point P, for the reason that a line passing from A, through C, the optical centre of the lens, would pass to D,* a point not illuminated; hence the aperture would appear dark. If the eye of the observer should be placed between the light and the box, the light could be obstructed and the box would not be illuminated.

If we could reverse this experiment, and place the flame at the point P, rays of light would diverge from this point P portions of which (CC) would fall upon the lens L, by which they would be refracted, and converged in the direction D D, to the point O, where they would meet in a

* A ray of light passing through the optical centre of a convex lens will continue in the same direction after leaving the second surface of the lens.

focus. In this experiment, P is the object, and O, the image; in the previous experiment, O was the object, and P, the image. *

If, when the flame is at P, diverging rays that fall upon the lens L are so refracted that they meet only at O, these refracted rays can not therefore fall upon the eye of the observer at A, hence the eye of an observer at A can not see the flame at P. The eye of the observer can therefore assume but one position in order to see the flame at P; that position is only in the direction of O C.

In these experiments, we have a very good model of the living eye. When the box is so arranged that the bottom is exactly at the principal focus of the lens, (parallel rays being brought to a focus at that point,) the normal eye is represented; when the bottom of the box is farther from the lens than its principal focus, the myopic eye is represented; when the bottom of the box is between the lens and its principal focus, a hypermetropic eye is represented.

The human eye, in its antero-posterior diameter, is about one inch in diameter. Its refractive media are, the cornea, aqueous humour, crystalline lens, and vitreous humour. Their combination is equal to the refractive power of a double convex lens having a focal distance of a little less than one inch. The optical centre of the eye is supposed to be near the centre of curvature of the cornea. As in the case of a double convex lens, parallel rays are brought to a focus at the pricipal focus of the eye. When the normal eye is in a state of rest, the principal focus is exactly on the basilar layer of the retina.

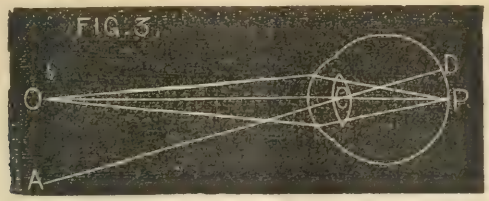
"When a properly formed eye is exactly accommodated for a luminous object, the diverging rays from this incident upon the eye, are refracted by the ocular media in such a manner that they unite at a point on the surface of the retina, which is the image of that object. The retina, in consequence of its transparency, transmits much of this light to the *choroid*, by which most of it is absorbed; but many of these rays are reflected in the same direction in which they entered the eye, and return to the object whence they started. The object, then, and its image on the retina are reciprocal points; they may be considered conjugate foci, each being in turn object or image."†

Thus, let E (fig. 3.) represent an eye accommodated for the object O. In this case the diverging rays from O, falling upon the cornea of the eye E,

* When a person is "sitting" for a photographic picture, the person is the object, and the inverted picture in the camera is the image; but during a magic lantern entertainment, the inverted painted slide in the instrument is the object, and the enlarged view upon the screen is the image.

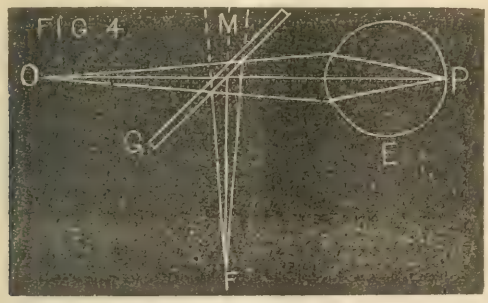
† Hulke.

are refracted by the media of the eye and collected at P, a point in the retina of E. This point, P, in E's retina, is the image of the object O;



and since the rays, when reflected from the eye, undergo a similar refraction but in an opposite direction, the rays from the retina at P will return only to the object O. These reflected returning rays cannot therefore meet the eye of a person at A, but the pupil of E will appear black. And, if the observer's eye be placed in the line OE the illuminating rays will be intercepted. From this it is apparent that without some special contrivance, a person cannot bring his eye into the direction of the rays returning from the eye under examination, without at the same time intercepting the incident rays. *This is effected by substituting reflected for direct light*, the observer placing his eye behind and looking through the mirror into the illuminated eye.

THE OPHTHALMOSCOPE.

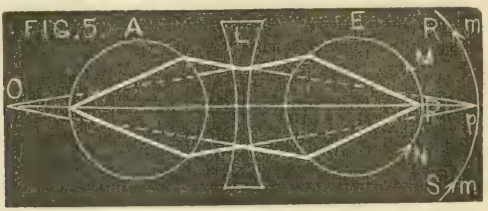


The simplest form of an ophthalmoscope is represented in fig. 4; E is the eye under examination, F the flame of a lamp, and G a piece of plate glass. Rays of light diverging from F, in the direction of M, fall upon the plate glass G; some of these rays pass through the plate glass, but others are reflected from its surface into the eye E, by which if the eye is accommodated for the flame, they are converged to a focus on the retina at P.* The rays that diverge from P, in the direction of the axis of vision, are so refracted by the ocular media that they leave the

* Plate glass has the property of partly transmitting and partly reflecting rays of light that fall upon its surface.

cornea convergingly, and would, if not intercepted, meet in a focus at the point O, which is the same distance behind the plate glass that the flame F is in front of it. These converging rays however fall upon the plate glass, by which they are partly reflected and partly transmitted; those that are reflected are converged to a focus at the point F, and those rays that pass through the plate glass are converged to a focus at the point O. The eye of an observer placed at the point O, or in a line with O C, will be able to see a pinkish reflection from the fundus of the eye E, but as these rays that emanate from the eye are *convergent*, they can not be brought to a focus upon the retina of the observer's eye; hence he is not able, with his unassisted eye, to distinguish any details of the fundus of the eye under examination. To enable the observer to distinguish these details, it is necessary to give the converging rays that are reflected from the patient's eye, a degree of parallelism or slight divergence before falling upon the eye of the observer. This is effected by placing a concave lens of proper strength before the observer's eye. When the examination is conducted in this manner, the vessels of the retina, &c., &c., upon the fundus of the eye under examination, have their natural erect position, and the examination is called the *direct method.*

OPTICS OF THE DIRECT METHOD.



Let E (fig.5) represent the eye under examination,—the point P, on the retina, being illuminated by the method illustrated in fig. 4 ; L, a concave lens, and A, the eye of the observer. Both the eye of the patient and the eye of the observer are represented in this figure to be myopic ; that is, adjusted for diverging rays. The eye E is adjusted for the point O. Rays that are reflected from P, on the retina of E, would be converged to the point O, but being intercepted by L, these *convergent* rays are rendered *divergent*, which, falling upon the cornea of A, are converged to a focus on A's retina. Thus, the observer will be able to see the point P, on the retina of E. These diverging rays that fall upon A, after being refracted by L, have a direction as if they diverged from a point P, beyond E ; the point P will, for this reason, appear to occupy the position of *p*, behind E, and will, consequently, appear larger than natural.

OPTICS OF THE INDIRECT METHOD.

ILLUMINATION.—When the fundus of the eye is examined by the indirect method, it may be illuminated by the light of a lamp reflected from plate glass as above described, or from a concave mirror, in the manner to be described hereafter.

When the light of a lamp is reflected into the eye, a small portion only of the retina becomes illuminated, the diverging rays falling upon the cornea being brought to a point on the retina, as is shown in fig. 3. In making ophthalmoscopic examinations, however, it is necessary to illuminate a larger field, so that a larger portion of the retina can be seen at the same time. This is effected by placing a $1\frac{1}{2}$ or 2 inch double convex lens about two inches from the cornea, between the mirror and the eye under examination.

Thus, in fig. 6, let F represent the flame of the lamp; B, a concave mirror with a central aperture; L, a 2 inch double convex lens, and E, the eye under examination. Diverging rays from F, falling upon B, are reflected convergingly towards L, by which they are refracted to a focus near the pupil of E; these rays, after crossing, proceed in nearly the same direction, and, as they diverge, a large portion of the fundus is illuminated at M N.

REFLECTION.—When the indirect method is employed, the mirror is held at a distance of from 12 to 18 inches from the eye to be examined. The eye of the observer looking throuh the sight-hole of B, will not see the erect image of the fundus of E at M N, but its inverted image will be seen instead in front of the convex lens at *n m*.

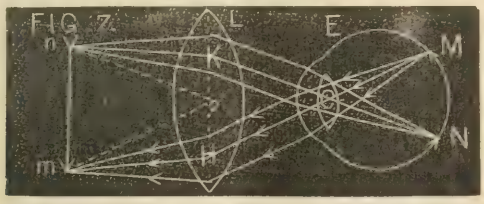


Fig. 7 explains this. Let E represent the eye illuminated as represented in fig. 6, and L a bi-convex lens of 2 inch focus, and at a distance

of two inches from the cornea of E. Rays of light reflected from M,* in the fundus of E, leave the cornea nearly parallel;† these parallel rays, falling upon the lower part of the lens at H, are brought to a focus at *m*, which is exactly at the principal focus of the lens, namely two inches from its optical centre. In the same way rays from the point N leave the cornea parallel and falling upon the upper part of the convex lens at K, are brought to a focus at *n*. There will then be formed in the position *n m*, an inverted image of the fundus of the eye E, which can be seen by the observer (see fig. 6) looking through the sight-hole of the mirror B.‡

LIEBREICH'S SMALL OPHTHALMOSCOPE.

I agree with Hulke in thinking that Liebreich's small ophthalmoscope is the best that can be recommended for ordinary examinations of the internal eye.‖ It can be used for both the erect and the inverted image. This ophthalmoscope consists of a metallic concave mirror, two double convex lens $1\frac{1}{4}$ inches in diameter, and five lenses, (one convex and four concave) $\frac{3}{4}$ of an inch in diameter. The mirror is $1\frac{1}{4}$ inches in diameter and has a central aperture or sight-hole one-sixth of an inch in diameter. The principal focus of the mirror is seven inches from its surface. A small spring slip for carrying any of the small ocular lenses, is attached to the back of the mirror by a jointed limb. The large objective lenses are $1\frac{1}{4}$ inches in diameter and their focal length is $1\frac{1}{2}$ and 2 inches. The small convex (ocular) lens has a focal length of 12 inches and the four concave (ocular) lenses have a negative focus of 6, 8, 10 and 12 inches respectively.§

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* Rays of light diverge from M the same as they do from the flame of a lamp: the fundus of the eye does not reflect light as a mirror reflects it.

† When the pupil of the normal eye is dilated with a strong solution of atropine, the eye is adjusted for parallel rays.

‡ It will seen from fig. 7 that a line passing from M through the optical centre C, is continued, after leaving the cornea, in the same direction to H, and that this line M C H determines the direction that the parallel pencil will take after leaving the cornea. It will be seen also that the direction in which H *m* is refracted by the lens L, is determined by a line passing from *c*, the optical centre of L, to the principal focus *m* parallel to M C H. This is true also of N C K and K *n*.

‖ In Zander's treatises on the ophthalmoscope, translated from the German by Carter, there are no less than 37 varieties of the ophthalmoscope described; 2 of which are binocular; 5 stationary, and 30 portable. The binocular instruments are those of Giraud Teulon of Paris and J. Zachariah Laurence of London. Carter prefers the ophthalmoscope of Coccius for the inverted image. The ophthalmoscope of Zehender is considered the best for examing the erect image.

§ Liebreich's small ophthalmoscope and the author's demonstrating and photographing ophthalmoscope can be procured of C Potter, optician, No. 20 King Street, Toronto.

THE OPHTHALMOSCOPIC EXAMINATION.

THE INDIRECT METHOD—The evening is the best time for making ophthalmoscopic examinations; if made during the day, the room must be darkened. The best light is that from the oil lamp, or from the argand gas burner. Before the examination, the pupil should be dilated with a solution of belladonna or atropine. For simply dilating the pupil, a solution of $\frac{1}{4}$ of a grain of atropine to the ounce will be strong enough, but in order to paralyze the accommodation of the eye, it is necessary to use a solution of 4 grains to the ounce. If the left eye, for example, is the one to be examined, the patient can either sit with his back against the side of a table and his left shoulder just in front of the lamp, or he can sit with his left side at the end of the table and the lamp placed opposite his left ear. The observer places his chair in front, and to the left of the patient, so that, when seated, he will be *tête à tête* with the patient, and facing the lamp. The mirror is taken in the right hand, and holding it about 6 inches before the patient's left eye, the light of the lamp is reflected upon it. Keeping the light upon the eye, the mirror is gradually withdrawn to a distance of 16 or 18 inches. The mirror, the eye of the patient, and the lamp should be nearly on the same level. The right eye of the observer is now brought to the sight-hole of the mirror, and the instrument kept steady by resting its upper part against the brow. The observer will now see the illuminated fundus of a pink colour and apparently the size of the dilated pupil, but no details can be distinguished. One of the large double convex lenses is now held by the thumb and fore finger of the left hand, between the mirror and the eye under examination, the hand being kept steady by resting the other fingers against the brow; the lens is at first placed about an inch from the eye of the patient, and gradually withdrawn until the pupil appears to be enlarged to the size of the lens, which will be about 2 inches from the eye, if the 2 inch convex ocular is the lens that is used, and about $1\frac{1}{2}$ inches from the eye when the $1\frac{1}{2}$ inch lens is used. If the eye of the patient is at this time looking directly at the mirror, the observer, at first, will, probably, see only the bright reflections of light from the two surfaces of the lens and from the anterior surface of the cornea. The patient should now be directed to fix his eye upon the observer's left eye; this will cause the eye under examination to be turned at the proper angle for the observer to search for the optic nerve entrance, which is always the first point to be discovered in making examinations of the internal living eye.

It cannot be denied that for beginners, this examination is a very difficult one; in fact few are able to see more than the pink reflection from

the fundus of the eye until they have made a number of attempts, under the direction of a practical teacher. The following are the principal difficulties that are met with by the beginner, (1) a small bright reflection of the mirror from each surface of the objective double convex lens; (2) a large bright image of the mirror reflected from the cornea: the circular aperture in this image of the mirror is sometimes mistaken by beginners for the optic nerve entrance 3, and in making this examination by the indirect method, the eye of the beginner is usually accommodated for an object near the back of the eye, instead of being adjusted for the inverted image in front of the objective lens. The character of the reflections from the lens can be studied separately by throwing the light upon the lens when the eye of the patient is closed. The reflection from the cornea can be examined by throwing the light from the mirror upon an eye, the pupil of which is not dilated, and by holding the object lens at different distances from the cornea.

THE DIRECT METHOD.—When the eye is examined by the *direct method*, the mirror is used only, and the eye of the observer should be about 2 inches from the eye of the patient. If the eye under examination is hypermetropic, it can be examined without the addition of an ocular lens behind the mirror. When a hypermetropic eye has its accommodation paralyzed with a 4 grain solution of atropine, it is adjusted for *divergent* rays; these divergent rays, falling upon the eye of the observer are brought to a focus npon the retina withoutt he aid of a concave or convex lens. If both the observer and the patient are hypermetropic, it will be necessary to use a convex lens behind the mirror, so that the diverging rays, emanating from the eye of the patient may be rendered convergent, the hypermetropic eye of the observer will then be able to bring these convergent rays to a focus on its retina. If the eye of the patient and the eye of the observer are neither hypermetropic nor myopic a weak concave ocular lens (*.e g.*—12, is placed in the clip behind the mirror to give the parallel or slightly convergent rays that are reflected from the patient's eyes a slight degree of preliminary divergence before falling upon the cornea of the observer's eye.* If the observer is myopic he must either wear the necessary spectacles for correcting his excessive refraction, in addition to the concave ocular lens; or he must place a concave ocular lens in the clip of sufficient strength, not only to neutralize his myopia, but also to render slightly divergent the parallel rays that emanate from the eye under examination. If the patient is also myopic,

* When the normal eye is directed to a distant object, the accommodation is relaxed and the eye is adjusted for parallel rays, but when the eye is directed to a near object it is involuntarily adjusted for divergent rays.

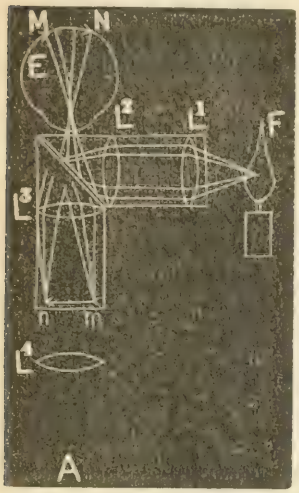
the observer must wear his correcting glasses, and in addition, there must be placed in the clip behind the mirror, a concave lens of sufficient strength to render slightly divergent the convergent rays that emanate from the myopic eye of the patient. When, however, the patient and the observer are both myopic, the examination can be more satisfactorily conducted by the indirect method. When the eye is examined by the direct method, objects at the fundus appear to be considerably enlarged. This arises from the fact that an eye has all the properties of a convex lens, having a focus of about one inch. It is well known that when an object is held just within the focus of a convex lens, the object is apparently enlarged and appears to be placed at a greater distance from the lens than the position it really occupies. So, in looking into the eye by the direct method, the whole of the posterior concave has the appearance of an eye several inches in diameter. Thus in Fig 5, rays emanating from P in the eye E, after being rendered divergent by the lens L, fall upon the eye A, as if they diverged from a point *p*, behind the eye E. By examining the eye from different directions the whole of the fundus can be surveyed, which will appear to occupy the position *m n* behind M N.* The direct method is the only mode of examining the eye for detachment of the retina, opacities of the vitreous humour, crystalline lens, &c., &c. In this latter examination, the eye under examination is viewed at a distance of 10 or 12 inches, and the patient is directed to turn the eye in different directions according to the part that is being inspected.

DEMONSTRATING OPHTHALMOSCOPE.

The theory of the author's demonstrating ophthalmoscope will be seen from the accompanying figure. F is the flame of a lamp; L^1 a double convex lens for rendering parallel the diverging rays of light from F; L^2 a second double convex lens of 2 inch focus for converg-

* Beginners are recommended to endeavour to familiarize themselves with the ophthalmoscope by practicing upon an artificial eye constructed of an ordinary pill box as described in a former part of this lecture; the ocular lens of a microscopo or telescope, or one of the objective lenses of Liebreich's ophthalmoscope can be cemented behind the aperture of the lid; a rude imitation of the optic nerve entrance and the branching of the retinal vessels can be made with pen and ink upon the bottom of the box; the normal, hypermetropic, and myopic eye can be imitated by fixing the bottom of the box at different distances behind the lens as already described. The eye of the cat is more easily examined by the ophthalmoscope than the human eye, as the *lapetum* reflects the light much better than the choroid of the human eye. The rich colouring of the tassetum makes the fundus of the cat's eye, a very interesting object for examination with the ophthalmoscope.

ing these parallel rays of light to a focus two inches behind the lens; G is plane plate glass for reflecting these converging rays in the direction of the eye E. These converging rays are represented to cross near the pupil of E and to diverge to illuminate the fundus M N. Rays that are reflected from the fundus of E leave the cornea nearly parallel,



and falling upon the plate glass G, are partly reflected and partly transmitted; those rays that are transmitted pass to L^3, a 2 inch double convex lens, by which they are brought to a focus at *n m*, where an inverted image of the fundus M N is formed. This inverted image can be seen by the eye of an observer in the position of A, and can be very considerably enlarged by placing a magnifier of 4, 3, or 2 inch focus (L4) at a proper distance behind *n m* and between it and the eye of the observer. By placing a screen of ground glass in the position of *n m*, the inverted image of the fundus of E will be formed upon it.

With a modification of the above ophthalmoscope the author has demonstrated that photographs can be taken showing the details of the fundus of the living eye.*

Lateral Illumination.

The examination of the cornea, aqueons humour, iris, and crystalline lens, is not complete unless they are also examined by what is called *lateral illumination* (called also "oblique illumination" "focal light" &c). This examination must be conducted at night, or in a darkened room. The lamp must be placed at the side and a little to the front of the patient and nearly on a level with his eyes. The observer sits or stands in front of the patient and with a $1\frac{1}{2}$ or 2 inch double convex lens he directs a cone of light laterally across the anterior chamber of the eye under examination. The parts thus illuminated, can be examined by a magnifier of 2 or 3 inch focus.

"This mode of illumination is especially valuable for minute scrutiny of the iris and papilliary margin; for inspection of the ciliary processes which may be singly followed to their origin; but, above all, for the

* A description of the above instrument appeared in "The Canadian Journal for March, 1864, and also in "The Ophthalmic Review" for July, 1864.

examination of wounds and exudations of the capsule, and for determining the consistence of the cortex, or the size, colour, and position of the nucleus of the lens. In examining for cataract and parts behind the iris, the pupil must be completely dilated with atropine."†

Interpretation of Phenomena Observed.

The following paragraphs on the interpretation of the Phenomena observed with the ophthalmoscope, I have copied entire from "The Theory of the Ophthalmoscope," by G Rainy, M.D., Glasgow.

"In making ophthalmoscopic examinations, the observer is often apt to be misled by optical illusions in drawing conclusions with respect to the magnitude, colour, position, and stability of the objects which he sees; and to err in his diagnosis in consequence of preconceived opinions with regard to the appearances which are consistent with a normal state of the eye, and in consequence of erroneous impressions about the causes which combine to produce varieties in the appearances. A knowledge of the varieties which may be met with in different eyes, and of their rationale, is of such practical importance and so intimately connected with our subject, that I may be allowed to make a few remarks upon the more important phenomena to be met with in health and disease, and upon some of the illusions by which the observer is most likely to be misled.

"The fundus of a normal eye, when examined ophthalmoscopically, presents a pretty uniform orange or pinkish colour; and, when the observer's eye is accurately adjusted for it, a finely granulated appearance, except at the place where the optic nerve enters, which will occupy the centre of the observer's field of vision when his axis of vision is directed somewhat downwards and inwards at an angle of 20° to 25° to that of the patient. The general hue of this spot is yellowish or greyish white, but it is not quite uniform in shade; and its form is nearly circular, but it is occasionally somewhat longer in its vertical than in its horizontal diameter, and irregular in its contour even in sound eyes.

"The retinal vessels are seen to rise out of the entrance of the optic nerve, near its centre; and they can be traced from this over a great part of the fundus oculi. Before leaving the surface of the optic disk they generally divide into two principal arterial and two principal venous trunks; an artery and vein going upwards and outwards, and another pair downwards and outwards, and arching round the site of the macula lutea, which is free from vessels. The venous trunk generally divides into its two principal branches in the substance of the nerve, near the surface;

† Zander on the ophthalmoscope.

the artery often remains single for some little way after it has come to the surface; but there are considerable varieties in the distribution of these vessels. The arteries may be distinguished from the veins by their smaller calibre, lighter colour, and more strongly marked double contour, which arises from the greater reflecting power of their coats.

"By slightly altering the focal adjustment of his eye, the observer may often see the observed fundus oculi streaked something like the skin of a tiger. This arises from the perception of the larger choroidal vessels, and their interspaces through the superficial layer of pigment cells; and the appearance is most easily seen towards the circumferential parts of the fundus oculi, and in the eyes of persons of fair complexion.

"When we proceed to investigate the rationale of these appearances, we are at once struck with the difference between the dark brown colour which is presented by the fundus of a dissected eye seen by ordinary day-light, and the clear orange tint which it assumes when illuminated by the ophthalmoscope. This is, no doubt, to be explained partly by the intensity of the light concentrated upon it, partly by the absence of contrast with other objects equally well illuminated, and partly by the presence of red blood circulating in it. If we trace the course of the light sent from the ophthalmoscope after it has passed through the refracting media, it must be observed that it first meets with the retina, which, being smooth and transparent, reflects but little light either regularly or irregularly when the light falls nearly perpendicularly on it ssurface, as it must of necessity do. It next reaches the layer of hexagonal pigment cells covering the choroid internally, when a considerable proportion is absorbed, some is transmitted, and a good deal seems to be reflected.*

"The transmitted light arrives at the choroidal vessels in the next place, and some is reflected, some transmitted, and some absorbed; the pigment in the interstices between them will, if strongly developed, absorb most of the light which falls upon it; but some may be transmitted through both it and the vessels to the sclerotic which has a great reflecting power. The light returning from these more deeply seated parts suffers loss from absorption in passing again through the more superficial ones; and it is also dispersed by them in such a way that it

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* E. Jager regards this layer of hexagonal cells as the principal reflector in the normal state of the fundus oculi. This opinion seems to be mainly grounded on the fact that, in certain cases where the superficial layer has been partially destroyed the fundus oculi presents a lighter colour than it does in parts denuded of this layer; and he states that its pigment appears reddish or orange by strongly concentrated light. Others, however, explain the matter differently.

Ergebnisse der Untersuchung des Menschlichen Augus: Wien, 1855.

rather tends to affect the colour of the latter, and the apparent brilliancy of the image which we see, than to give us a definite perception of the form and colour of the objects from which it is reflected. The less strongly developed the superficial pigment is, the less absorption and dispersion will take place.

"In various diseased conditions, the layer of the hexagonal cells becomes destroyed or atrophied, and in this case we may see the choroidal vessels very well, with their interstices filled with dark pigment; but this may sometimes be observed in the case of persons with well-developed interstitial pigment and little development of pigment in the superficial layer; such cases, however, are rare. Again, both superficial and deep-seated pigment may be destroyed by disease, and then we see the choroidal vessels against the white grouud of the sclerotic; but something similar may be seen in the eye of an albino, or a person of very fair complexion. Finally, the choroid may be atrophied in its whole thickness at particular parts, as in staphyloma posterius, and we then see nothing but the white sclerotic; but this may be simulated by white patches, the result of iuflammatory exudation, fatty deposits in the retina, &c.

"In all such cases, we must pay particular regard to the complexion of the patient, and the history of his case. The seat of the abnormal appearance may often be detected by observing whether the retinal vessels pass in front of or behind the white patches observed; and we may generally distinguish the results of atrophy, or destruction of pigment, from those of original conformation, by the irregularity of the distribution of pigment in the former case, and from those due to exudations, &c., by their not being so sharply defined in general.

"Masses of dark pigmentary matter are sometimes observed on the fundus oculi. They may or may not be of pathological importance; and a sickle-shaped deposition of this kind is common at the margin of the papilla optica.

"The transparency of the retina may be impaired, and its reflecting power increased in consequence of inflammatory disease. The effect of this is to give a hazy indistinct appearance to the fundus oculi. The observer must be on his guard against confounding this with an indistinctness due to improper focal adjustment of his own eye, or to turbidity of the media, or with the faint greyish colour which the fundus presents occasionally in very dark subjects—a phenomenon which appears to me to be explicable upon principles referred to in Part I. When the retina is separated from the choroid by serous exudation, some parts may appear bluish grey, or white, and others almost black, according as the light regularly reflected from their surfaces enters the eye of the observer

or not. A good deal also depends upon the colour of the subjacent fluid, and upon contrast with parts of the fundus which present the usual appearance.

"The papilla has a red appearance in various diseases, owing to increased vascularity of its surface; but its colour varies considerably in the normal state, often resembling grey cerebral substance, and it is sometimes pinkish. Some parts of it appear to reflect more light than others—a fact which is attributable to our being often able to see back to the lamina cribrosa. The more brilliant parts correspond to those in which fibrous tissue predominates, and the darker ones to the transparent substance of the nerve-tubes along the axes of which we look.

"The papilla sometimes appears abnormally large and vascular, viz., in cases of staphyloma posterius at a certain stage where the sclerotic appears around the optic disk in consequence of atrophy of the choroid; and small retinal vessels, which cannot be distinguished on the orange ground in a normal eye, come into view. Eyes affected with this disease are more or less myopic; and the optic disk proper appears hardly so white as the surrounding sclerotic denuded of the choroid.

"The choroid hardly comes to the margin of the place of entrance of the optic nerve, even in a normal eye, and on this account the nerve substance may be much atrophied, according to Liebreich, without an apparent diminution in the diameter of the disk.

"The papilla optica, which does not really present the form of a globular elevation during life, sometimes appears as if it did so when it is observed by means of the ophthalmoscope. One cause of this has been pointed out by Liebreich, who has drawn attention to the fact that the distribuition of dark and light coloured parts resembles that in a representation of a sphere well executed on a plane surface.* When the optic nerve is cupped or excavated, as in glaucoma, this appearance comes out more strikingly, especially when the indirect method of examination is employed, because we are then subject to another optical illusion depending upon the reversal of the image, and similar to that in consequence of which the inverted image of an intaglio produced by a biconvex lens, resembles a cameo; the shadow thrown by the margin of the cup or excavation appearing to be on the side opposite to that from which the light comes to it instead of on the same side.† This illusion is, for obvious reasons, most striking when the image of the disk is near to one side or other of the observer's field of vision.

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* Grafe's Archiv, Bd. i., Abt. ii.

† See "A Fragment on Glaucoma," by Dr. Mackenzie, in No. xi. of the London Ophthalmic Hospital Reports.

"In cases where the optic nerve is deeply excavated, the bottom of the cup appears to be of a greenish colour, while its margin (corresponding to the part of the sclerotic immediately surrounding the nerve, and not covered by choroid) has a yellowish white colour, and a brilliant aspect at certain parts from its reflecting the light like the rim of a cup. The retinal vessels may be seen passing over this to reappear indistinctly at the bottom of the cup, and they may seem more or less dislocated as they do so, according to the position of the patient's eye with respect to the observer, and according to the position in which the biconvex lens is held, if one is made use of."*

"When we perceive opaque bodies situated in the media, by means of light coming from the fundus oculi, they will appear black, whatever their real colour may be; thus, opacities in the lens, though they may appear grey, or even white, under ordinary circumstances and contrasted with a black pupil, appear like black spots or streaks upon the illuminated fundus. We may, no doubt, see light reflected from the fundus oculi, and light reflected from opaque bodies in the media at the same time, and contrast will then determine in a great measure the appearance presented by the latter. Supposing an opacity in the lens to have a power of reflecting light falling almost perpendicularly upon it equal to that of the fundus oculi, the former would appear dark in comparison with the latter, if the illuminated area of the fundus were smaller than the area of the pupil; because the fundus would in that case be better illuminated than the opacity, and the observer would in general see each with nearly its proper brilliancy, provided the pupil of the observed eye were somewhat larger than his own."

"In all cases in which the observer seeks to draw conclusions from the colour of objects seen within the eye, he must remember to make allowance for the quality of the light by which they are illuminated, and which reaches his own eye after undergoing various modifications consequent upon its reflection from, and transmission through other bodies, besides those which it renders distinctly visible."

"It will be found that objects seen by means of the ophthalmoscope generally present a lighter shade of colour than they do when seen by ordinary daylight, especially if the direct method is employed."

"The principles upon which we may determine the state of focal adjustment of the observed eye have been already discussed. The importance of the ophthalmoscope used for this purpose in military and medico-

* The reader will find observations on this subject by Mr. Streatfield. Ophthalmic Hospital Reports, No. xi.

legal practice, has been pointed out by Professor E. Jager of Vienna.* He refers to a circumstance, which may rather embarrass the observer in examining hyperpresbyopic eyes in the direct manner, viz., that in extreme cases the apparent magnitude of the image of an object, such as the papilla, may not exceed a third or a fifth part of what it appears in a normal eye. A much larger area is then seen, and this circumstance may add to the difficulty of illuminating hyperpresbyopic † eyes, referred to in Part II. The illiumination may or may not be fainter than it is in a normal eye, according to the mode in which it is accomplished, and according to the cause of the hyperpresbyopia,‡ whether dependent on absence of the lens, &c., or on shortening of the axis of the eye; but the area illuminated will always appear smaller than of equal dimensions in a normal eye, and it will seldom occupy the whole of the observer's field of vision."

"Apparent motions of objects situated in different planes within the eye, are often very difficult to distinguish from real ones. They may depend on motions of the eye observed, or on motions of the observer, or the biconvex lens held in his hand. The apparent changes in the position of objects caused in this way may be regarded as an exaggeration of those observed in looking at objects from different points of view under ordinary circumstances; except that in the direct mode of examination, it is the most distant objects which appear to move most rapidly, instead of the nearer ones, as is always observed in nature, and generally in the inverted image."

REVIEWS AND NOTICES OF BOOKS.

Contributions to Bone and Nerve Surgery. By J. C. Nott, M.D., Professor of Surgery in Mobile Medical College. Philadelphia: J. B. Lippincott & Co. 1866.

As was to have been expected, the late unhappy struggle has, from the number of the casualties that occurred, afforded a wide field for the improvement of Surgical and Medical Science. but more especially the former. Now that it has terminated, the laborers are putting together the facts, and drawing such deductions as seem to them to flow from them. Among the few that have already appeared, this unpretending little volume of about one hundred pages is certainly not the least valuable. Opening

† Der Augenspiegel als Optometer, österr. Zeitschrift für practische Heilkunde, March, 1856. * Hypermetropic. ‡ Hypermetropia.

with a brief summary of the views advanced on periostitis, endostitis, ostitis, caries, necrosis, &c., he passes in the second part to give such views on bone and nerve surgery, as cases that came under his notice, while an active participant in the war, seem to warrant. Before noticing one or two things in the second part of the work, we would allude in favourable terms to a method of operating to relieve the great pain of acute periostitis when you have reason to believe suppuration has not occurred, which is, we believe, alone recommended by Dr. Nott. Gross and other surgical writers recommend, whether fluctuation can be detected or not, when great pain exists, to cut down through the skin, and relieve the pent up matter. Dr. Nott says: "In periostitis, accompanied by severe pain and effusion of lymph and serum, with a tendency to suppuration, it is proper to make a small opening, at the lower part of the swelling, introduce a probe-pointed knife flatwise, pass it along between the skin and periosteum to the upper border of the swelling then turning the cutting edge towards the periosteum, and while withdrawing the knife divide the periosteum subcutaneously down to the bone, through the whole extent of the swelling. When we are sure suppuration has occurred, it is better to make a free incision through the skin." In the second part of the work, alluding to gun-shot injuries, he says: "My general rule has been thus; if a patient comes to me two or more months after a gun-shot injury, with a fistulous opening, unless contraindicated by an inflammatory condition of the part or an unhealthy condition of the system. I cut down boldly in the direction of the sinus, laying it opening to the bone, and then introduce my finger and explore it fully so as to ascertain, certainly what is the condition of the bone, and whether I am justified in removing the dead portion * * * * * * In the majority of cases I find balls, clothing or other foreign bodies, and the patient is relieved at once by the removal." Dr. Nott, in alluding to what sometimes occurs in flap operations, but more particularly in circular operations according to Gross—viz., exposure of the bone, either from sloughing or from sufficient covering not having been left, says:

"In those cases where the bone projects from the stump, the inexperienced surgeon is often tempted to interfere, not only unnecessarily, but injuriously with the operations of nature. I have been often consulted to know whether it is not best to saw off the projecting bone; but though a contrary opinion has recently been advanced by an army surgeon, I unhesitatingly say *no*. Where a bone projects from an open, suppurating stump, under any circumstances, it will require at least a month, and probably six or eight weeks, before the stump can be healed, whether the bone is on or off. Experience teaches that nature will amputate the bone, and generally at a very good point, by the time the rest of the wound

closes up to its margin, and thus do away with the necessity of amputation by the surgeon: the absorbents set to work, at the line between the dead and living bone, and in from four to eight weeks, the work is complete, and the skin soon closes over it."

"If while a stump is swollen, inflamed, and suppurating freely, the surgeon cuts down to remove a projecting end of bone, he adds to the inflammation, causes more or less hemorrhage, shocks the system, makes the condition of the stump altogether worse, and *gains no time* in the final result, even if the case does well. One of the greatest objections to the operation is the danger of extending the necrosis, by exposing a fresh surface of bone to unhealthy pus of the stump. This must necessarily be the most common result; the projecting bone to be removed dies because it is exposed to air and pus, and the surface exposed by the second operation is likely to be followed by similar results from the same causes."

Contusion of bone is, says Dr. Nott, very often followed by serious results. Many cases have come under his observation where the ball has entered, grazed the bone, and passed out, the wound healing rapidly. But in a few months, sometimes weeks—periostitis showed itself, which, going from bad to worse, ended in necrosis and exfoliation of a portion of bone over the sight of the contusion. The climate of the Southern States is according to our author peculiarly favourable to recovery from wounds. He says: "I feel assured that no experience of the old world can compare in success with that of the surgeons of the Southern States, not from any peculiar skill on their part, but from the superiority of the climate." Altogether we consider Dr. Nott's little work a valuable addition to our surgical literature. As here in Canada, we cannot tell the moment that many of us might be called to the field, it becomes our bounden duty to be thoroughly posted in that class of cases—that would certainly come under our observation, and on them Dr. Nott has thrown much light.

Descriptive Catalogue of Fluid and Solid Extracts in Vacuo, also Concentrated and officinal Pills, prepared by HENRY THAYER & Co. Cambridgeport, Mass., 1866.

We have received from Messrs. Henry Thayer & Co., a handsome book of over two hundred pages, being a descriptive catalogue of the fluid extracts and other preparations made by this well-known firm. Within a few years many practitioners have discarded many old infusions, and used in their place fluid extracts of the same article. Some profess to have met with disappointment from their use—complaining that the ex-

tracts are not of a uniform strength. So long as the required strength can be guaranteed by a respectable firm, for ourselves we would prefer to use the fluid extract in many cases. Being concentrated, a smaller dose is required, a desideratum not to be overlooked. In their preface they say, "Except when prepared from officinal formulae, we manufacture a plain extract of the plant, believing that physicians will prefer to form combinations according to their own judgment. In strength each fluid pound of extract contains the strength of a pound of raw material." So far as we are aware, the extracts prepared by Messrs. Thayer & Co. are not much used in Montreal, but we have no doubt that if they prepare them of a uniform strength, and advertise them, they may obtain a share of medical patronage.

Successful Removnl of the Uterus and both Ovaries by Abdominal Section; the tumour fibro-cystic and weighing thirty-seven pounds. By HORATIO R. SRORRER, M.D., Boston.

We have had this small pamphlet in our possession for some time. It gives the details of a case of great interest, and its success will cause many to consider whether the assertion of the unjustifiableness of the operation is correct. Extirpation of the uterus has been principally performed by American surgeons, and including Dr. Storrer's there are now six successful cases on record against eighteen fatal ones. The paper was originally published in the Boston Medical and Surgical Journal.

PERISCOPIC DEPARTMENT.

Medicine.

HOW SHALL WE TREAT CHOLERA?

Notes on the Pathology and Treatment of Cholera. By GEORGE JOHNSON, M.D., F.R.C.P., Physician to King's College Hospital; Professor of Medicine in King's College; etc.

The question which I have placed at the head of this communication, is one which, at the present time, is of the highest interest and importance; and it is one to which probably many of us will soon be called upon to give a practical answer. Dr. Handfield Jones has discussed the subject at some length in the last number of the JOURNAL; and he invites others to give the results of their experience, particularly with reference to these two questions—Is it right to suppress choleraic

diarrhœa at once and decidedly by any means in our power? or is it a better and a more successful practice to encourage the evacuations by eliminants? The whole tendency of Dr. Jones' remarks is in the direction of an affirmative answer to the first of these questions, and of course of a negative to the second. Now, the ultimate appeal for the decision of all questions of this kind must be to facts and to experience; but the difficulty of obtaining trustworthy facts and the results of unbiassed experience is much greater than is commonly imagined. The facts are often seen through the distorting medium of a theory, and the jndgment is in consequence perverted. To illustrate this by an example: two practitioners (MM. Briquet and Mignot, *Traité Critique et Analytique du Cholera Morbus*, 1850, p. 514) who believe that the worst symptoms of cholera are the result of the drain of fluid from the blood, treated 200 cases of diarrhœa in the hospital, under the most favourable circumstances, by repeated large doses of laudanum, and twenty-six of the patients so treated passed into the stage of collapse. Now, while it is assumed that the arrest of the disease in the 174 cases was a salutary result of the treatment, it is also assumed that the transition from the stage of choleraic diarrhœa to collapse in the other cases was a consequence of the laudanum having failed to arrest the gastro-intestinal discharges. But a totally different and possibly a more correct interpretation may be given of these phenomena. It is at least conceivable, though it is obviously incapable of proof, that, if these 200 patients had been kept in bed and had taken only copious draughts of cold water or any other simple diluent, not one would have passed into collapse, and all might have recovered more speedily than they did while taking large doses of laudanum. It is an indisputable fact, that a large portion of cases of choleraic diarrhœa will terminate in recovery under the use of the simplest possible remedies which are wholly free from astringent properties. Thus the late Mr. Wakefield, who was surgeon to the Middlesex House of Correction during the last epidemic of cholera in 1854, stated in a letter to the *Times*, that he had treated upwards of 150 cases of choleraic diarrhœa amongst the prisoners by thirty grains of sesquicarbonate of soda in a wineglassful of strong mint tea. The dose was repeated every half hour. No fatal case occurred. "The disease was arrested with a rapidity that was quite magical," and he had rarely occasion to administer the dose more than three times before the sickness and diarrhœa were arrested. While under treatment, the patient was confined to a diet of beef-tea, cocoa, or arrow-root; nothing solid, not even bread, being allowed while the diarrhœa continued. Now, this plan of treatment, which was remarkably well suited for allowing full play to the curative efforts of nature, can scarcely

be supposed to have had any direct remedial effect, and it was certainly not an astringent treatment; yet the results were in the highest degree satisfactory, and form a striking contrast with the results of the opiate treatment in MM. Briquet and Mignot's cases. I am aware that too much reliance must not be placed on a comparison of the results of treatment in cases occurring at different times and in different countries; but there are many facts and considerations which point to the same conclusion as the comparison which we have just now instituted.

That treatment of choleraic diarrhœa is obviously the best, which most speedily and completely puts a stop to the purging without subsequent ill effects. In the treatment of this disease, we must never lose sight of an important principle which, with reference to another class of diseases, has been forcibly impressed upon us by one of the great living masters of our profession. Dr. Latham says: "There is a lesson which we are apt to learn slowly, but which all of us come to learn at last. It is this: that while present pain and present peril call loudest for relief and rescue, still in relieving and rescuing the ultimate well-being of the patient must not be disregarded altogether. To compare great things with small, it is not only in the art of war, that an imprudent victory has been the beginning of many disasters." (*Lectures on Diseases of the Heart*, vol. i, p. 236.)

For several years, I was in the habit of treating summer diarrhœa, and during the epidemic of 1849 choleraic diarrhoea, by opium and astringents; and it was the frequent failure of this method that led me to search for some better theory of cholera than that which suggested this unsuccessful practice.

My observation of the effect of opium in cases of choleraic diarrhœa is briefly this. When the diarrhœa is abruptly checked by the opium, the patient sometimes passes at once into a state of collapse; while, in other cases, the diarrhœa, having been arrested for a time, returns as soon as the effect of the opiate has passed off. In other cases, again, the diarrhœa continues, in spite of repeated doses of opium, for a period sometimes of several days; the patient meanwhile having a hot skin, a quick pulse, a coated tongue, headache, and other febrile symptoms.

On the other hand, I found, during the last epidemic of cholera, that when choleraic diarrhœa was treated by emetics, mild laxatives (castor oil), and cold water, the disease subsided much more speedily, and not one case, out of a large number so treated, passed into the stage of collapse. They all quickly recovered; although I am now convinced that in several instances much more castor oil was given than was necessary or desirable.

This is a true account of the results of the two opposite modes of treating choleraic diarrhœa, as I have observed them. And, moreover I maintain that these results are in strict accordance with the most rational theory of cholera.

What is the most probable explanation of choleraic diarrhœa? It seems likely that a poison enters the blood, either through the lungs or through the gastro-intestinal canal; and that this poison excites certain zymotic changes in the blood, in consequence of which some blood-constituents undergo morbid alterations which render them not only useless but noxious. These morbidly changed blood-constituents are then excreted by the mucous membrane of the stomach and intestines, and are ultimately ejected by vomiting and purging. It appears then that there are three distinct and well defined stages: 1, zymotic blood-changes, consequent on the imbibition of a poison or ferment; 2, vascular excretion of morbidly altered blood-constituents; and 3, intestinal elimination of the morbid excreta. Now, if this be the true explanation of choleraic diarrhœa, what is the probable effect of opium upon each stage of the disease? Is there the slightest reason to suppose that opium has the power to prevent or to check the zymotic changes in the blood; I know of none; and I believe that there is no evidence that opium has any such influence. But, from the known power of opium to check excretion, we should infer that it would probably prevent or retard the escape of the altered blood-constituents by the mucous membrane of the stomach and bowels; and then, if it be true, as we believe, that the immediate cause of choleraic collapse is an arrest of the circulation through the lungs, induced by morbidly altered blood, we can understand that the astringent action of opium upon the gastro-intestinal mucous membrane may be quickly followed by collapse. And here again facts and theory agree in a remarkable manner.

Yet, once more, what is the effect of opium when a quantity of morbid secretion has been poured into the intestinal canal? Obviously it must retard the escape of these offensive matters, and so prolong the disease. What says Sydenham upon this point? "By checking the disease at its onset, I should wear out the patient by an intestine war, and I should just confine the enemy to his seat in the bowels, should impede the natural evacuations, and detain those humours which were seeking for an outlet." And, again, with reference to the use of astringents, he says: "They keep the enemy to his quarters, and they change him from a visitor to a denizen. Besides this, the disease is prolonged, and there is danger in the delay. Vicious humours creep into the blood; ill conditioned fever is excited; and the patient suffers not only a severe

disease, but a long one too." (*Sydenham's Works*, translated by Dr. Latham. Sydenham Society. Vol. i. pp. 163-4.) This statement is quite in accordance with my own experience, that the effect of astringents, and especially of opiates, in the early stage of epidemic diarrhœa, is to prolong the disease, and in the same degree to increase the risk of disaster.

The only period of the disease at which opium can be given with safety and advantage, is after the elimination of the intestinal excreta. It then allays pain and irritation, and often affords great relief and comfort to the patient. Whenever a dose of opium appears speedily to arrest an attack of choleraic diarrhœa, it is because the process of intestinal elimination had been well nigh completed before the dose was given; whereas, if given earlier, when the bowel contains an abundance of morbid secretions, the opium retards their exit, and so prolongs the disease. Whether an opiate does harm or good, then, will depend upon the period of the disease at which the dose is given. The rule is, not to close the door until "the enemy" has been expelled.

The cholera poison, whatever may be its nature and source, whether it be "ponderable" or not, is a reality, and no figment of the imagination. And it is as drastic a purgative as any drug in the list of the materia medica. This violent purgative action of the poison is a result, probably, of morbid zymotic changes which it induces in some of the blood-constituents: and, since it is likely that the longer it remains in the system the greater will be the mischief which it occasions, it seems obvious that nothing should be done to prevent the speedy exit of so active and so destructive an agent. Those who, under the influence of an erroneous theory as to the essential cause and nature of collapse, would not dare to give a purgative in cholera, are apparently blind to the fact that the tendency of their opiate treatment is to retain within the system an agent rapidly self-multiplying, and more violently purgative than any ordinary drug. Henceforth, let them bear in mind that so long as the morbid poison remains in the system, there is going on a rapid manufacture of *cholera-cathartine*, which must and will purge itself away.

Fortunately, in most instances, the purgative action of the poison is sufficient to overcome the astringency of the opium, just as a large dose of elaterium, in combination with opium, would purge itself away. And so choleraic diarrhœa, treated from the first by opium, in the great majority of cases, comes to an end, only somewhat less speedily than it would have done if left alone.

Dr. Handfield Jones asks whether the cholera poison is a thing conceivably capable of being eliminated. And he says that "the malarious

poison, which much resembles choleraic, is not got rid of by any purging." Now, as to the cholera poison, there is a something thrown out of the body with the morbid excreta which is very generally believed to be poisonous; and it is considered highly important to disinfect, destroy, and put out of the way these poisonous excreta as speedily as possible, in order to prevent the spread of the disease. And here let me ask, is it possible that these cholera stools can be at once innocuous to the patient while they are retained with his body, and yet a source of danger to others when they are discharged from his bowels? If the cholera excreta are so poisonous that the discharges from a single patient, if allowed to pass into the sewers without previous admixture with disinfectants, may, as is supposed, infect a whole district (See Dr. Wm. Budd's papers in Association Journal, 1854), is it conceivable that they can be artificially retained within the intestines without detriment to the patient? Is there not an inconsistency here between the attempt to restrain the evacuations by opiates and astringents and the practice of disinfecting the stools? If the excreta are poisonous, they surely ought to be allowed—nay, assisted—to escape as speedily as possible from the patient's bowels. If they are not poisonous, why take the trouble to disinfect them before they pass into the drains?*

Then, as to the malarious poison, I would ask Dr. Jones what evidence he has that it resembles the cholera poison. I am not aware that we have any knowledge of morbid poisons, except that which we gather from observing their effects upon the functions and structure of the body; and, as the history and symptoms of cholera are certainly very different from those of ague, I should infer that their specific causes are essentially different. Dr. Jones surely will not maintain that the fact of the malarious poison being irremoveable by purging is evidence in favour of the astringent or against the eliminative treatment of cholera. What would Dr. Jones say to this argument? The malarious poison and the cholera poison much resemble each other. Quinine will not cure cholera: probably, therefore, it is not a cure for ague!

Again, Dr. Jones says that "the analogy of most other diseases of a

* Surely the advocates for the opiate and astringent treatment of choleraic diarrhœa, in opposition to the eliminative method, must be the legitimate therapeutical descendants of those amongst the cotemporaries of Sydenham, who, on theoretical grounds, so violently opposed that alarming innovation—the admission of cold and fresh air into the chambers of small-pox patients. They thought it essential for the safety of these unhappy patients to close the doors and windows, and thus to surround them with a poisoned atmosphere. Sydenham ventured to admit fresh air, and so to *eliminate* the poison.

toxic kind would lead us to think that the morbific action is to be counteracted rather by endeavours to prevent its morbid effects, or to strengthen and hold up the vital forces against it, than by any process of elimination." Now, in reply to this statement, I would remark that, in most instances, we have no power to prevent the effects of morbid poisons. How powerless, for instances, we are to arrest the morbid phenomena of small-pox or typhus fever! And, again, in those rare instances in which we have the power to prevent certain effects of morbid poisons, we find that repressive measures are injurious. Take, for instance, the eruption on the skin in the case of scarlatina. By continued exposure of the surface to cold, we can drive in the eruption, and relieve the sensation of heat and tingling; but a very common result would be inflammation of the kidneys and dropsy. Surely the true aim of scientific medicine is to study the phenomena of each disease, with a view to ascertain their nature and origin, and especially to determine the natural process of cure; to be very careful in arguing by analogy from one disease to another; and in all cases to avoid such measures as would tend to repress a natural effort at cure. This principle, I conceive, would equally forbid the use of cold lotions to the skin in scarlatina, and opiates in choleraic diarrhœa. Would Dr. Jones consider it good practice to check the profuse acid perspirations of rheumatic fever by cold, or by other direct repressive means?

So unwilling is Dr. Jones to admit the principle of elimination, that he endeavours to account for the good effects of purgatives in some cases by supposing that they substitute "another kind of action, of less pernicious character, for the original;" and he gives what I cannot but consider a most incomprehensive and improbable theory of choleraic collapse, to show that castor-oil may be beneficial as a "modifier of an irritated state of the intestinal surface." In confirmation of this view, he states that he lately observed an instance "in which a dose, taken on account of some abdominal uneasiness, removed the symptoms speedily, without acting at all on the bowels." He means, of course, without acting as an aperient. But I venture to suggest that the oil in this case may have relieved the patient by driving some irritating material from the more highly sensitive small intestines into that more torpid receptacle, the large bowel. When castor-oil expels offensive and irritating secretions from the bowel, it seems more reasonable to attribute the relief to that kind of elimination, than to any mysterious alterative influence of the oil upon the surface of the intestine. There are some pathologists who, assenting to the doctrine that the natural cure of cholera is effected by the elimination of the morbid excreta, yet maintain that the poison itself is sufficiently emetic and purgative, and that no attempt should be made to increase the discharges by artifi-

cial means. Now I admit that, so far as regards the excretion from the blood-vessels into the stomach and bowels, no artificial aid is needed. So long as the circulation remains free, this process will be sufficiently active; and when the circulation fails in consequence of the arrest in the lungs, as it does in cases of extreme collapse, no purgative will keep up the excretory process. But the process of elimination may be arrested in what I have before referred to as the third stage, that of intestinal elimination. The morbid secretions may accumulate in the gastro-intestinal canal, or they may be but slowly and incompletely discharged; and then artificial aid may be of real value. Absorption is very active during the stage of reaction after collapse; and then poisonous excreta which have been retained within the bowel may re-enter the circulation and excite mischief. By copious draughts of cold water or other simple diluent drinks, by an occasional emetic, and by some mild but quickly acting purgative, the stomach and bowels may be freed from their poisonous excreta—the gastro-intestinal sewer may be flushed—and this with great advantage to the patient. Castor-oil, as a purgative in these cases, has the advantage of being very quick in its action, and yet it is unirritating, and has very little tendency to increase the drain of liquid from the blood.

It is to be hoped that a more rational pathology of collapse will henceforth lessen the unfounded dread of excessive purging. Death *may* be a result of excessive purging in cholera; but it is a comparatively rare result; and the probable reason in this. When the poison is so abundant or so virulent that its excretion would involve a fatal loss of blood-constituents, it so affects the circulation through the lungs that the flood-gates of the pulmonary artery are closed; the excretory process then ceases for want of arterial blood; and death results, not from exhaustion, but from an arrest of the circulation.

I venture to suggest that collateral evidence in favour of an eliminative and against an astringent and repressive treatment of choleraic diarrhœa, is deducible from the fact that many practitioners of eminence and repute finding that the treatment by opium is unsuccessful, have long been accustomed to treat these cases by large doses of mineral acids. They give from half a drachm to a drachm of dilute sulphuric acid in water every half-hour, or even oftener, until three or four doses have been taken; and they declare that the diarrhœa thus dealt with ceases much more speedily than when treated by opiates, or when opiates or aromatics are combined with the acid. Now, those who believe that an astringent is essential for the arrest of a diarrhœa, probably consider this to be an astringent method of treatment. But it is an indisputable fact these large doses of mineral acid tend to irritate the bowel, and thus have more of a purgative than

of an astringent action. If any one dispute this proposition, let him, when not suffering from diarrhœa, put the matter to the test by taking four half-drachm doses of dilute sulphuric acid in the course of two hours. He will probably find that these large doses of sulphuric acid act as an unpleasant griping purgative.

Some practitioners are of opinion that the mineral acids act as a chemical antidote to the cholera poison. But, according to Mr. Wakefield's experience before referred to, an alkaline treatment might, with equal reason, be considered antidotal. We know nothing of chemical antidotes for the cholera poison, and probably we never shall.

I am told that there are some weak brethren who are haunted by the fear lest, in treating cholera by purgatives, they be supposed to act upon the homœopathic dogma, *similia similibus curantur*. If the commonly received theory of collapse were true, there would be some ground for this fear; but I have elsewhere endeavoured to show that mere purging will not give rise to the peculiar and distinctive symptoms of cholera, and that purging is not the disease but the cure. The way, then, to escape the dreaded suspicion of an alliance with homœopathy is to adopt a truly scientific pathology. In conclusion, however, I would warn those who persist in giving opiates and astringents, that a do-nothing system of homœopathic globulism will be more successful than theirs. In other words, Nature weighted with narcotics and astringents will lose the race in competition with Nature not so encumbered.—*British Medical Journal.*

TREATMENT OF ASIATIC CHOLERA

By R. M. Forsayeth, M.D.

At a time when a visitation of Asiatic cholera is not unlikely from its proximity in neighbouring countries, unless otherwise ordained by Providence, I feel called upon to offer a few practical remarks upon alcoholic medication in its treatment, and also such statistics as have come within our reach upon that subject, preventive or curative. A prevalent idea occupies the public mind, that some preventive measure, as alteration or change of diet, or medicine is neceessary at such a time. This seems true only in one or two particulars:—

1st. If the mode of life or diet is acting detrimentally on the health, a change may prove benificial.

2nd. An early abandonment of habits of intemperance. Any other precautionary changes impressing the mind with the likelihood of an attack act injuriously.

A Russian physician states, "It is a positive fact that cholera does

not seize on its victims at hazard, as many say. It has been ascertained that out of every *hundred* individuals who die of this disease, *ninety* are in the habit of drinking ardent spirits to excess."

Mons. Huber, who saw 2160 perish in twenty-one days of cholera in one town in Russia, says, "It is a most remarkable circumstance that persons given to drinking have been swept away like flies. In Tiflis, containing 20,000 inhabitants, every drunkard has fallen—all are dead, not one remains."

Dr. Rhinelander, visiting Montreal in 1832, states, "The victims of cholera are the intemperate." A Montreal journal states, "That not a drunkard who had been attacked had recovered, and almost all the victims have been, at least, moderate drinkers."

Dr. Bronsen of Albany, states, "Drunkards and tipplers have been searched out by cholera with such unerring certainty, as to show that the arrows of death have not been dealt out with indiscrimination; there seems to be a natural affinity between cholera and ardent spirits, and their habitual use in the smallest quantity seldom fails to invite the disease, and render it incurable when it takes place."

Professor Sewall, M.D., visiting New York, says, "That of 204 cases in the Park Hospital there were only six temperate persons, and that these had recovered."

Dr. Mussey, U. S., says, "Upon boats on the river the increase of brandy drinking, consequent on the approach of cholera, has been frightful, and the mortality on board these vessels has been terrible and unprecedented. When this dreadful scourge was raging in New Orleans, amongst the hundreds that were swept off by the disease, only two were sons of temperance, and among the 1200 of that city only three were attacked."

The great and good Mr. E. C. Delevan writes, "In 1832 when the cholera broke out in Albany I was engaged with E. Corning and J. T. Norton in erecting that large block of buildings on Green, Beaver, and Norton-streets. About 100 men were employed, they were all about abandoning their labour, when they were persuaded to remain. They all agreed to keep at their work and abstain from strong drink. A beverage of water, molasses and ginger was furnished them free, and of all those 100 men engaged on the work not one died, nor was the work intermitted a day; one man not under the control of the builders (those excellent mechanics, Fish and Mawley), but employed by the man who furnished the brick, would not adopt the simple beverage offered to him but resorted to the grog shops. He fell a victim."

Professor Miller says, "Of 70 male adults affected with cholera in

Edinburgh Hospital in 1848, only 17, according to their own account, had led tolerably temperate lives, and of 140 females attacked by the disease only 43 were reported sober."

Professor Mackintosh of Endinburgh, who was physician to an extensive cholera hospital, states, "It has been computed that 5-6ths of all who have fallen by the disease in England were taken from the ranks of the intemperate and dissolute."

Dr. Adams of Dublin, affirms, "Our foreign reports testify that drunkards are carried off at once by this dire disease; but those who by a daily use of a moderate quantity debilitate the tone of the stomach and biliary organs become easy victims to the cholera."

The Rev. Wm. Reid of Edinburgh, in his "Temperance Cyclopædia," says, "Dr. A. M. Adams, Professor of Medicine in the Andersonian University of Glasgow, has favoured us with a classified statement of the previous habits and conditions of health of 125 cholera patients treated by him during the epidemic of 1848-49. From this table it appears that whilst those patients, who were represented to him as being of temperate habits, died only in the proportion of 19·2 per cent., those who were of intemperate habits died in the enormous proportion of 91·2 per cent."

I might multiply statements such as these, but assuredly they ought to be quite sufficient to establish the principle of the imperative necessity of refraining from the use of alcohol, or a remedial agent for its cure. This latter I had an opportunity of testing during the dreadful invasion of 1832 as well as 1848, when I relinquished brandy for pure cold water with marked benefit. In corroboration of this statement, I could quote those of some other medical men, but refer just now to only one detailed in THE PRESS of 27th December, 1865, in an article on cholera, translated from the French by Dr. T. M. Madden:—

"The action of cold water in cases of cholera was, however, I believe, first pointed out thirty-two years ago by an Irish medical practitioner, Dr. McCoy, in the *Dublin Quarterly Journal of Medical Science*, and as the article in question is probably unknown to many readers of the PRESS, I shall quote the passage to which I refer:—

"Among the strongest prejudices," says Dr. McCoy, "I brought into the hospital was that against cold water. One of the India reporters, I recollect, states that he never knew a patient recover who was allowed cold water to drink, and other writers denounced it, though not so emphatically. I accordingly requested the nurses not on any account to comply with the entreaties of the patients for cold water. On the 2nd May, a female named Margaret Tusky, aged 21, was admitted into one

of my wards at four o'clock in the evening; she had been nine hours ill; the surface of her body quite cold; her feet, legs, hands, eyelids, and nose were blue; no pulse could be felt at her wrist: vomiting incessant of the rice-water kind; she had two or three alvine dejections before admission; eyelids half closed, and eyes turned upwards; thirst very great; calls for cold water urgent; cramps very distressing; tongue cold and white; pain just below the sternum, which she attributed to having drank two pennyworth of buttermilk during the morning. The necessary measures were resorted to for her. This girl, having observed that a pail of cold water had been left near her bed for some ward purposes, contrived during the evening to draw herself towards it, and putting her head into the vessel drank copiously; it was speedily thrown up again, but the draught was repeated as often as she could without being detected. When I heard of it, I was of course alarmed for the consequences. However, during the night, a patient in the same ward in a convalescent sate, who had felt the deprivation of water herself, not long before, got out of bed several times and supplied Tusky with cold water. This she told me herself the following morning after I had expressed my satisfaction at finding her so much better than when I left her the night before. She recovered. This incident demonstrated that the indulgence in drinking cold water was, at least, not certainly fatal. I therefore commenced giving it in small quantities when called for, and soon after allowed them to drink as much of it as they pleased. I found it the best drink of any I had yet tried, and by far the most agreeable."

I could multiply cases exactly similar, one in particular detailed to me near Cork, confirmatory of the forgoing remarks. "Cold Water *versus* Brandy Cure;" but having already taken up so much of your valuable space, I think it not necessary, sincerely hoping by those few details to draw the attention of our noble and philanthropic profession to the disastrous evils resulting from the indiscriminate alcoholic medication of the present day.

Templemore, May 13, 1866.

BLEEDING IN CHOLERA.

By Ewing Whittle, M.D. Lond., Member of the Royal Irish Academy; Sen. Hon. Surgeon to the Liverpool Dispensaries.

Though fully appreciating the justice of your observation, that a terrible responsibility rests upon any one who writes on the subject of cholera at present, I feel bound to lay before the Profession some observations on the views of the treatment of cholera lately set forth so forcibly by Dr.

George Johnson. This is a subject on which I have a right to speak with some degree of authority; in 1849 I devoted much time to a careful study of the history and pathology of the disease, I was largely engaged in the treatment of cholera cases during the epidemic of that year, and had the charge of the Cholera Hospital of Toxteth-park, a township then containing more than 60,000 inhabitants.

As the result of my practice I showed that the judicious use of the lancet (as practised nearly fifty years ago in India), was the key to successful treatment; that by its use four cases out of five could be saved; that next to its use administration of calomel was most to be relied on; and I believe I was the first to show that the good effects of calomel had no reference whatever to the supposed action of that mineral on the liver. A further experience of the epidemic in 1854 confirmed these views, and you will find the results partially recorded in the *Medical Times and Gazette* for October, 1854. So much for my claim to some attention on this important and now anxious question.

I am quite satisfied that Dr. Johnson is right in his theory that the passage of blood from the right side to the left side of the heart is impeded: this arrest of the blood in its natural course is what calls for relief by blood-letting. Whether this is caused by spasm of the small vessels or whether it be the result of nervous paresis, the fact does not admit of dispute; but I cannot so readily admit the truth of Dr. Johnson's theory, that the vomiting and purging is an effort of nature to carry off the poison. How often is vomiting a symptom of sympathy with a distant organ, as in nephritis, in hydrocephalus, in pregnancy? So much for theory; now with regard to practice. I have invariably observed that if these symptoms can be relieved the severity of the disease is abated; and *vice versâ*, everything which increases the vomiting and purging aggravates the disease, and precipitates the collapse. Under this head may be included all stimulants, astringents, and opium; all alike injurious, not by stopping the discharges, but by increasing them, particularly the vomiting, which is always a most harassing and exhausting symptom. On the contrary, the action of the calomel is the very reverse; it stops the vomiting immediately, and after a few doses the purging. This I have observed myself; it never purges unless it is continued until reaction is fully set up. In support of the correctness of this statement, I can refer you to all the old Indian authorities; for instance, Dr. James Johnson says "that twenty grains of calomel will act as a sedative; and, so far from griping and producing hypercatharsis, it will soothe uneasiness and rather constipate than purge. Annesley and other Indian authors have made the same observation. This appears to me to be the weak point in

Dr. Johnson's views and this I wish to combat—viz., that calomel is given as a purgative or a cholagogue. In fine, one word upon your own remark, that those who read Dr. Johnson's book will come to the conclusion that the best plan is to do nothing in the stage of collapse; if they do, I can assure you that they will lose more patients than they ought to do. Let them open a vein in the arm in all cases; if collapse has gone so far that no blood will flow, the puncture will do no harm; if only a little blood flows, some relief will be afforded; and if the stream continues until the colour changes from black to red (as Annesley long ago recommended), the relief will be very decided, and the patient will in all probability recover, particularly if he has not been previously injured by the administration of stimulants and opium or other irritants. It is generally sufficient to take three or four ounces of blood, the red colour becoming pretty well marked by the time that quantity is drawn from the vein. A few doses of calomel and a spoonful of gruel every now and then, and the application of dry heat and sinapisms to the surface, was the only additional treatment which I found necessary in 1854.

Believing that there is much truth in what Dr. Johnson has advanced, and knowing that his views have made a profound impression on the Profession, I feel bound to enter a protest against what appears to me to be the unsound point both in his theory and practice. However, I am glad that he so far concurs with me as to recommend bleeding at all; this, I think, he did not do in 1854. I practised it with success both in that year and in 1849, and I would beg most urgently of my Professional brethren to give this mode of treatment a fair trial. If they do, they will not be disappointed.

ICE IN CHOLERA.

A correspondent of the (Calcutta) *Englishman* gives an account of the successful treatment of a case of cholera, apparently in an advanced stage, by the application of ice to the spine, as recommended by Dr. Chapman. The writer says:—On Sunday, the 25th Feb., about 10·30 a.m., my servants requested me to go and see a man who, they said, was dying of cholera, and to give him some medicine. I proceeded to the place, where I found a man lying on the ground in the greatest agony, with the usual symptoms of cholera—vomiting, &c. He was much emaciated, and to me appeared rapidly sinking. I had no medicine in the house. I ordered one of my servants to go around among the neighbours and try to get some medicine, but in this I was unsuccessful. I recollected, however, having read in the *Times* an article bearing the signature of John

Chapman, M.D., 25 Somerset-street, Portman-square (of which I had taken a note), in which the writer advocated the use of a bag of ice down the spine. Feeling that if I did no good, I could, under the circumstances of the case, do no harm, I made up my mind to try whether ice would do any good. I now proceed to give you an account of what I did, and as to what the results were. 10·30 a.m.: The man, a Mussulman, a hackery-wallah, arrived with his own and other hackeries from Calcutta. He had been for two or more hours purging and vomiting violently; voice scarcely audible; pulse imperceptible; hands, arms, legs, and feet quite cold. He was throwing his legs about and twisting his body in great agony; he complained much of thirst. I gave him water with a little carbonate of soda in it. He appeared to be sinking fast. 11·0: I procured some ice from a neighbour. Having no gutta-percha bag, I took the leg of a pair of flannel trousers and made a long bag to reach from between the shoulder-blade to the bottom of the spine, of a width of three inches; into this I put broken ice, and applied it to the spine. After I had applied the ice the purging and vomiting ceased, and by 11·20 the spasms were much diminished. 11·30: The patient was much easier. On questioning him he said in a very low voice that he felt easier. A little before twelve I found that his pulse was perceptibly stronger, and that his arms and legs, which were previously as cold as stones, began to be slightly warm. The flannel in which the ice was put was now saturated with water, and as Dr. Chapman said the cold was to be a dry not a wet cold, one of my natives suggested the use of a bottle, on which I got a preserved-fruit bottle into which I put the ice, and had the bottle held against the spine. 12·30 p.m.: No more vomiting, &c., the arms and legs getting warmer; no pain, very great thirst; I let the man drink as much as he liked. From this time till 1·30 I kept the bottle of ice on his back, when, finding that his hands, arms, legs, and body were becoming hot as if he had fever, I removed the bottle of ice; and as I was about to leave my house for tiffin with a neighbour, I told my khansamah if fever came on to put in the place of the ice-bottle a bottle of hot water. 4·30; I returned to the man. He was fast asleep, and a more deadly object I never saw. At 5·30 he awoke and asked for food. I gave him some thick conjee with sugar and brandy. 7·30 a.m., Monday, 26th: The man is sitting up; convalescent, but weak. He wants to take his bullocks and hackery away. The above are the facts of the case."—*Medical Times and Gazette*, April 28, 1866, quoted from the *Homeward Mail*.

A CASE OF ATAXIC LOCOMOTIVE PROGRESSIVE PARALYSIS.

By R. Murney, M.D., fellow and licentiate of the College of Surgeons, Ireland

The case which I am about to describe will serve to illustrate a disease (if my diagnosis be correct) which is well known in Dublin, but not so well throughout the country: it is for the latter reason that I venture to bring forward this case so as to ventilate the subject as much as possible. I confess that I cannot throw any new light on the pathology of the disease, inasmuch as I had no post-mortem in the case. The disease ran its course in four months, terminating in perfect recovery, which was contrary to my prognosis, as I looked on the symptoms indicating a disease which experience has hitherto, at least, found to be incurable. The disease I allude to is the ataxic locomotive progressive, described by M. Duchenne. The subject of this paper is a young gentleman of about 20 years of age, tall and well proportioned, fair complexion; he consulted me on the evening of the 7th of last February; said he suffered great pain since four o'clock in consequence of not being able to pass any urine; made some about eight o'clock in the morning, but none since, though having made many efforts; said this incessantly came on without any cause that he was aware of; was in his usual health and spirits the previous day, and slept well the night before. I passed a catheter without the least trouble, urine natural in quantity and quality, and acid reaction, sp. gr. 1020, it was microscopically examined by Dr. Barker, who pronounced it healthy. I passed the catheter twice each day for fifteen days. At this date the bladder recovered itself for a short time On the third day of my attendance on him his gait became unsteady, and when turning round staggered. In the course of a month, as those symptoms increased and became aggravated, could not walk with his eyes shut, had great difficulty in maintaining his balance, when once in motion he could get on pretty well by moving quick with his head down and eyes fixed on the ground. About a week after the bladder recovered itself, another and distressing condition of it set in, incontinence of urine; his face presented a peculiar sardonic grin, apparently drawn to right side; no anæsthesia on the left; right eye amaurotic; pupil dilated; appetite bad; lived on wine and brandy occasionally. His friends were greatly afflicted at the appearance of his face, being so much changed; did not perceive it himself; his memory was not as perfect as usual; he became careless and filthy in his habits; complained of pains in his thigs and legs. The history he gave of himself was:—Had always enjoyed good health; both his parents and all his family were living; a few days before last Christmas got for the first time in his life pain in his head and back, with sick stomach; went to bed; lay for three weeks

with a feverish cold, as he was told by the medical man who attended him when convalescent; went to Kingstown; there became strong in a short time; a few days before his return to town got a pain in the lower part of his back corresponding to the fourth lumbar vertebræ; it was very severe for some days; the intensity of it gradually lessened and finally disappeared. When first consulted the treatment consisted of citrate of quinine and iron, a blister over the region of the bladder, beef-tea, wine, &., subsequently tinc of ergot. strychnia, nitrate of silver; the latter medicine he continued to take for four weeks without ever making any change in the colour of his skin. The patient himself imagined he was very much improved, though I could not perceive it. Went to Galway on the 2nd of April to see some friends there; returned on the 4th of May to Dublin, to my great astonishment strong and fat, and to all appearance quite recovered. How long he will continue so remains to be seen. While in Galway discontinued the nitrate of silver pills and all other medicine. On my first interview with him after his return, the first thing he did was to walk with his eyes shut and dance a polka. I confess that on this occasion I was not a little shaken in the correctness of my diagnosis, but when I grouped all the symptoms—the staggering gait, the peculiarity of raising and putting down the foot, the heel first, the head bent, with eyes looking down on the ground, the amaurotic eye, and the inability to walk with eyes shut, which M. Trousseau says is pathognomonic of the disease ataxic—all these symptoms confirmed me in my former diagnosis. The only other disease that this could be confounded with is reflex paralysis. On this subject I published two papers, in one of them the disease was ushered in by loss of power of the bladder, succeeded by incontinence of urine. In those two somewhat similar, but totally different diseases, you have in both the staggering gait, the peculiar motion. In the ataxic the heel is first put down, in the other (reflex) the toes. In the latter the patient can walk with his eyes shut and his head erect, never any affection of the eyes or face, which we know is not the case in the ataxic.

In those cases of reflex paralysis alluded to, both recovered, they were read and discussed at the meetings of the Surgical Society of Ireland.

Chronic Dysentery.—H. Hartshorn, M.D., has treated chronic dysentery of three months standing, where the patient was relieved entirely in a few days by the use, twice daily, of an injection of four ounces of water, containing eight grains of zinci sulphas. with forty drops of laudanum.—*New York Journal of Medicine, col. 3, p. 271.*

Canada Medical Journal.

MONTREAL, JUNE, 1866.

AN APOLOGY.

We owe an apology to our readers for the delay in the issuing of the June number. During the greater part of the month, both editors were on the frontier, in medical charge of volunteers, and this is our excuse. We trust to have the July number ready very shortly, and will use our best efforts to have the future numbers out in good season. May we again solicit the aid of our subscribers for original communications? We must say we find a sad want of energy among the practitioners of this Province, in giving the result of their observations.

THE HEALTH OF THE CITY.

"It is an ill wind that blows nobody good," is an old saying, and we think it has been proved a true one, in relation to the anticipated visit of cholera. From all appearances, and judging from the past, we had good reason to apprehend the appearance of this terrible disease in our midst this season, and we in this Journal, more than once raised our voice against the criminality of neglecting to take all the precautions which sanitary science has taught us, were likely to mitigate or prevent the appearance of the scourge. It was hard to rouse our people to a realizing sense of the duty they owed, not only to themselves and their families—but also to their fellow-citizens; but once fairly roused into action, Montrealers are proverbial for the earnestness and enthusiasm which they throw into all their works. It was late in April before our citizens were aroused to the danger which seemed to be overhanging them —in the threatened appearance of cholera; but then two health officers were appointed, and a sanitary association formed, and the result of their combined labour, is that on the 1st of July, we find our city in a state of cleanliness, such as we believe it has never before in its history been. Of course we do not for a moment mean to assert that this cleanliness has prevented the appearance of the disease—but we do assert, that had we been visited by cholera, the condition in which the city is now in, would have exerted a very modifying influence over its spread and fatality, as it has been exerted, even over the ordinary mortality of the season. Seldom, if ever, after such intensely hot weather as we have had for a

month past, has the weekly bills of mortality raged so low, we might say remarkably low, and we think the result of our labours to prevent or arrest cholera, should it appear, has taught us a most valuable lesson, which we trust our citizens will never forget. If by such simple means as have been made use of—we can bring about such grand results—how grave a responsibility would rest upon us—if in the future, we should neglect to employ them. Montreal has ever been remarkable for its very high mortality, and one of the reasons—what others there may be we do not enter upon now—we at all events have ascertained to be the filthy yards, foul emanations arising from putrefying animal and vegetable matter so long usually allowed to remain, and which this season have been compelled to be constantly removed. This should be ever remembered—should be earnestly impressed upon all who have the good of our city at heart; and we feel that much credit is due to the Sanitary association in placing before the people facts, which show them how simply yet effectively preventible diseases may be kept from their doors. We anticipate much permanent good will result from their labours, and whether cholera come this season or not, (for it is yet too early to say whether we will yet altogether escape it, although appearances seem to indicate we will,) we have certainly realized great benefits from its anticipated appearance. In closing we would simply add, events have taught us there is ample work for a Sanitary association in Montreal, and we hope that the association will become a permanent one—the fruits of whose labours will become yearly more visible.

OUR VOLUNTEERS.

Since we last issued the Journal, our country has been roused from Sarnia to Gaspé, by the infamous invasion of the Fenian brotherhood, and never before has Canada been so united, or so nobly responded to the call for volunteers. We hope perhaps ere a great while, to be able to publish something regarding the medical history of the brief—but hard campaign—in the meantime we invite attention to the communication of Dr. Caniff, on some of the wounded at the battle of Ridgeway. Among the Montreal volunteers sent to the frontier, considering they were under canvas all the time, and that the weather was remarkable rainy—that there were many badly clothed and shod, ill-supplied at first with overcoats and blankets—that they performed hard and long marches over most abominable roads, that they were hard worked on guard and picket duty—they were most remarkably free from serious disease. Among the Field Battery, Cavalry, Prince of Wales, Victorias, and Royals, very few cases presented themselves for admission into hosiptal. The majority that

were admitted, were suffering from sore feet, caused in the majority of instances by badly fitting boots. Anticipating active work—the desire seemed to be to keep out of hospital, and ready for any emergency. Slight colds were common from severe wettings—especially after the march from Hemmingford to Durham and Huntingdon.

TO OUR SUBSCRIBERS.

With this number, the second volume of the Canada Medical Journal is brought to a close, and we thank our subscribers for the countenance and support they have given us, since our Journal commenced its existence. The volume just about closed, although not as successful as we could have desired, has yet been in many ways successful. Our subscription list embraces a large proportion of the practitioners of Upper Canada, and a majority of the English speaking medical men of Lower Canada, as well as many of our excellent French brethren, and at the close of the second volume, we find that few have deserted us—while many have come to our aid. For this measure of success we are thankful, and will endeavour by making the Journal the means of spreading the views of the principal medical writers of Europe and America, still further to desire the approbation and assistance of the profession. Those of our subscribers who have not yet remitted the subscription for this year, will please do so at once; and the few who have not yet paid for either volume, must have strange ideas, and the possession of a conscience—the elasticity of which we do not envy them. If they wish the *Journal* continued—they must remit the amount for both volumes immediately. We will furnish the index to volume 2 in the July number.

MEDICAL NEWS.

Mr. Frederic William Lloyd Hodder of Toronto, passed his examination before the Apothecaries' Hall of London, on the 8th February.

Treatment of Coryza.—M. Lue, an Assistant Surgeon in the French army, recommends the inhalation of tincture of iodine in nasal catarrh. "I inhaled tincture of iodine," says he, "from a phial for one minute at a time, at intervals of about three minutes; the heat of my hand was sufficient to promote the evaporation of the iodine; the headache yielded first, sneezing became less frequent, the secretion less copious, and although the inhalation caused a burning sensation in the throat, I was entirely cured at six o'clock, P.M., of a cold which from nine A.M. to three P.M. had been sufficiently violent to compel me to use four pocket handkerchiefs."—*Dublin Medical Press.*

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